Promoting Student Engagement

Volume 1: Programs, Techniques and Opportunities

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Foreword

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Steve Davis began his Foreword to the STP E-book on undergraduate research by saying "Over forty years ago when I was a student.......". So I should probably begin by saying, "Over 70 years ago when I was a student......."

Actually Steve's statement about college teaching in his era would be equally valid for the state of college teaching in the 1930's and 40's. I was probably the first psychology teacher to be hired to train graduate students to teach college classes. (1948). (I was also the lecturer for the two 500-student lecture sections of introductory psychology that preceded the discussion sections each week.)

It didn't take me long to find out that I could get students to study by giving frequent quizzes and exams, but, in that era of multiple-choice, true-false questions, their primary study strategy was memorization. Before long I realized that memorizing might help them pass the tests, but they could easily forget the material as soon as they no longer needed to know it. Moreover if their primary motivation was to pass tests, they were not likely to be motivated to continue learning once the final exam was over.

By this time we were beginning to distinguish between extrinsic and intrinsic motivation, and I became interested in trying to find out how to develop intrinsic motivation for life-long learning. I felt lucky that psychology is a subject that can be intrinsically motivating for most people because we'd like to understand why other people do crazy things that we wouldn't have thought of doing.

Moreover I knew that challenge is an important intrinsic motivator if the challenge is seen as something that can be met. If students see their psychology course as so easy that there's no need to study much, or if they see the course as being so hard that there's no use trying to understand, they are not going to be motivated for learning.

One of the ways I tried to increase the challenge was to include an essay question on my tests. Even in my 500-student classes I included an essay question on the final exam. I told the students, "Obviously I can't read 500 essays before I have to turn in my grades, but I promise that I will read your essay if the points on it would be enough to make a difference in your grade". Usually I had to read only 40 or 50 of the essays. I hope this clarifies why I see intrinsic motivation and student engagement as highly related.

Richard Miller has assembled a sterling set of chapter authors for this important contribution to teaching and learning. The topics cover all of the aspects of student engagement that I can think of. The book will be a major contribution to the improvement of teaching and student learning for many years to come.

Introduction

According to Newman (1992) student engagement occurs when "students make a psychological investment in learning and try hard to learn what school offers." Engaged students take pride not only in earning the formal indicators of success (e.g., grades), but in understanding the material and incorporating it into their lives.

Student engagement can be defined as a students' willingness to actively participate in the learning process and to persist despite obstacles and challenges. Indicators of student engagement include class attendance and participation, submission of required work, involvement in the learning environment, and participation in the extra-curricular learning opportunities provided on their campus.

Students who are engaged tend to demonstrate sustained involvement in their education as well as a positive emotional tone toward learning experiences. Engaged students tend to show initiative, select tasks that stretch their abilities, and exert substantial effort in accomplishing educational goals (Skinner & Belmont, 1993).

Purpose of the Book

To promote student engagement, professors must actively seek to create the conditions that foster engagement. Chickering and Gamson (1987) suggest that good practices in undergraduate education are ones that: encourage student-faculty contact, develop reciprocity and cooperation among students, encourage active learning, provide students with prompt feedback, emphasize time on task, communicate high expectations and respect diverse talents and ways of knowing.

The purpose of the book is to provide the reader with a variety of techniques that can be used to foster student engagement. The techniques include ways to enhance the level of academic challenge, promote active and collaborative learning, increase student-faculty interaction, provide enriching educational experiences, and create supportive learning environments.

Organization of the book

The book is divided into six sections. The first section describes factors that promote student engagement and the learning outcomes related to student engagement. The second and third sections describe programs that promote student engagement and include programs that can be implemented at the course level, programs that can be offered by a department, programs that provide for community involvement, institution-wide programs, as well as national programs.

Instructors can enhance student engagement by encouraging students to become more active participants in their education. Section 4 of the book provides a number of techniques that can be used to promote active participation in the classroom. Several opportunities for student engagement are described in Section 5. The final section of the book describes several innovative approaches on how to assess student engagement.

Section 1: Why and How Engagement Matters

Research over the past few decades has increasingly emphasized the importance of student engagement for achieving many academic learning outcomes. Increased student engagement improves critical thinking, enhances openness to diversity, and facilitates openness to challenge, among other outcomes. It is therefore critical for faculty to better understand those factors that promote student engagement within their classroom, and, throughout students' collegiate experiences. Guenther and Miller's chapter outlines some of these factors while focusing on individual difference variables and educational practices that promote student engagement.

Academic achievement is not the only positive outcome associated with student engagement. In their chapter, Miller and Butler point out that student engagement has been positively linked to psychosocial development & identity formation, post-occupational status and income, growth in leadership abilities and job related skills, and moral and ethical development.

Section 2: Programs that Promote Student Engagement

In this section, contributors describe a variety of programs that can be used to promote student engagement including student organizations, internships, learning communities, and service learning. Student organizations encourage and support student engagement in both the academic and social realms, and therefore have a positive impact on

the overall college experience. Although traditional and online psychology organizations may differ in structure, function, and operation, they both bridge the gap between academic and social life on campus, and enhance overall student engagement. Thielen and her colleagues discuss strategies to promote psychology students interest in club membership and participation. They discuss the benefits of membership related to developing leadership and planning skills through involvement in organizing and leading club meetings and activities. The environment of well-run psychology organizations facilitates student engagement and helps advance the professional development of their members.

Engaging the Millennial student can be a challenging task in itself, but the difficulties can be particularly daunting at the community-college level, where students are often non-traditional with the outside obligations related to their other roles. Student organizations can be instrumental in fostering engagement on any campus, but honor societies have a unique opportunity to assist students in building the social and cultural capital necessary for career success. Valerie Smith and Jennifer O'Loughlin-Brooks describe *Psi Beta*, the two-year honor society in psychology, which has endeavored since its inception in 1981 to engage students via a well-constructed set of national initiatives that afford students the experiences that help develop their professional skills.

Eric Amsel and his colleagues describe a collaborative effort to create a training program for college students serving as mentors and tutors of "traditionally non-college bound" K-12 students. The training program is composed of eight online modules and assessments which better prepare college students to effectively promote college participation among first-generation, culturally diverse, or low-income primary and secondary students. The training program is free and portable and can serve as a standardized training for students at any institution involved in community service. It is suggested that the training program promotes college student engagement, which researchers and administrators may also find helpful.

Maya Khanna discusses several reasons why educators should encourage students to complete community service. For example, it can provide preparation for students pursuing service-oriented careers. Khanna then discusses how community service benefits those serving. She describes studies that indicate community service is positively related to student grade point averages, graduation rates, and emotional health among other things. Khanna then suggests ways that educators can promote community service engagement to students. These methods include developing service-learning courses, introducing an institutional requirement of community service for students, conducting community-based research, designing community service oriented capstone courses, and educators participating in community service themselves.

Internships are another valuable engagement activity for psychology students that develop both professional and personal skills. George Yancey presents 15 questions that his department struggled with in developing its undergraduate psychology internship program. The initial question explores whether to add an experiential learning component to an undergraduate psychology curriculum, and if so, should it look like.. Other questions explore internship parameters such as where should internships take place, what duties should the interns undertake, how many hours should be required, how should interns' performance be evaluated, and how should the internship program be evaluated?

Residential learning communities (RLCs; also known as living-learning communities or programs) are becoming increasingly popular around the U.S. These programs integrate traditional housing efforts and academic learning programs to promote community, experiential learning, and exposure to a specific discipline or academic area. Despite their growing popularity, few psychology-focused RLCs exist. *Brain Matters* is one such program, at Appalachian State University in North Carolina. Rocheleau and her colleagues describe how *Brain Matters* was developed, its mission and aims, and how the RLC is administered to promote student engagement.

Buch and Barron present two approaches in developing curricular-based learning communities for first year psychology students. They illustrate how learning communities incorporate a host of interventions designed to promote student engagement and recommends two simple frameworks of student success that can be used to guide the initial planning of a learning community. The first framework is Astin's (1993) involvement model that emphasizes student-faculty interaction, student-student interaction, and student time-on-task, all of which are enhanced through curricular-based learning communities. The second framework is the *APA Guidelines for the Undergraduate Psychology Major* (2007) that promotes specific learning outcomes that can be achieved through learning communities.

Often addressed as a pedagogical tool, service learning offers broad applications to psychology students. The practical experience of integrating the abstract principles of psychological theory with observational research methods and community concerns challenges students to harness diverse skill

sets in a way that classroom participation alone cannot replicate. Jennifer O'Loughlin-Brooks and Valerie Smith discuss how service learning encourages student engagement cognitively, emotionally and developmentally. They point out that given that these are core aspects of the field, psychology is an ideal discipline for this approach.

Programs like Alternative Break and other campus-sponsored service projects give students ample opportunity for community and international service, but they often lack an emphasis on curriculum-based learning. In their chapter, Steve Barney and his colleagues discuss efforts they made to augment the "learning" in the Alternative Break trips at Southern Utah University. After reviewing the literature on service-learning, international service-learning, and interdisciplinary service, learning, the authors outline an international interdisciplinary service learning project in which they evaluate the impact home construction projects have on indigenous residents of Guaymas, Sonora Mexico. This project provided opportunities for students in psychology, sociology, construction management, and foreign languages to have a rich and engaged learning experience.

The benefits of cultivating a loyal group of alumni have been largely overlooked and understated. Although alumni can offer a wealth of support and assistance to students and faculty in a multitude of areas, they often only hear from their alma maters when the institutions need donations. Stuber, Thielen, Babitzke and Allan suggest ways that alumni can become valuable educational resources to engage students in the learning process in the areas of networking and communication, student professional development, career and internship placement, and outcomes assessment.

Section 3: More Programs that Promote Student Engagement

In this section, we continue to describe programs that can promote student engagement. In her chapter on Honors College, Christensen describes an evolution toward a new curriculum of engaged pedagogy incorporating concepts of Emotional Quotient (EQ) from Goldman (2003). Activities to build capacities of empathy, flexibility and collaboration while challenging patterns of concrete thinking, privilege and a strategic learner paradigm helped to form an understanding of the honors student personality. Curriculum experimentation also revealed misperceptions about the rigor of engaged pedagogy and the risks inherent with this type of course design. Honors Colleges are encouraged to consider the commonalities between the mission of

honors education and the benefits of engagement pedagogy.

In academia, a capstone usually refers to a course or project that synthesizes the knowledge learned during a student's academic career. The goals in nearly all capstone experiences are to have students develop the skills to go beyond the ability to simply summarize and evaluate the information they have learned. Wadkins and Miller briefly outline the learning objectives that are generally associated with the capstone experience, describe different approaches capstone experiences in psychology, and relate the capstone experience to assessment.

Bill Wozniak describes the program entitled, Science Education for New Civic Engagement and Responsibilities (SENCER). The SENCER education philosophy claims that the best way to teach science is by doing science on important problems in the civic arena, especially to non-science majors. Wozniak provides a brief history of SENCER, the activities of the SENCER organization, some example courses from the natural sciences, and some applications of SENCER to Psychology courses.

The first year experience (FYE) course has become a common phenomenon on college campuses over the past decade. The value of FYE is allowing students to gain insight on how to be successful students, network with faculty, get involved in research, engage in self-reflection, learn key technology skills, and access material that often "falls through the cracks" of other courses. In their chapter, Schrader and his colleagues describe course content, ideas for structuring a FYE class, the benefits of FYE courses, a sample syllabi, and prospective activities.

Fostering student engagement in psychological research can be particularly challenging. Holmes and Beins describe their department's research intensive curriculum aimed at promoting such engagement. In addition to required courses in research methods and statistics, their department's curriculum includes a laboratory course at the introductory level and an intensive three-semester research team experience for advanced students. This intensive curriculum has yielded dividends in terms of student research productivity and general appreciation for research. Alumni frequently report that their research team experience was one of their most valuable academic experiences.

Freshman orientation programs often result from interdisciplinary collaboration, and thus they present a perfect opportunity for psychologists to lend their expertise in a number of areas. In their chapter Bennett-Day and Rouleau present a number of ways in which freshman orientation programs can incorporate psychological themes and approaches. These include techniques to enhance group cohesion,

an emphasis on the importance of relaying expectations to students, and encouragement of student autonomy in the transition to college. The chapter concludes with a successful example of how a summer bridge program may provide more intensive transitional support for incoming students.

Sara Villanueva's chapter considers the varying meanings of hybrid learning and presents an historical overview of blended courses and how they have been used as a teaching strategy in higher education. The author reviews a study that suggesting that blended or hybrid courses could be just as effective and well received as a traditional face-to-face class. The benefits and challenges of the learning format are outlined in the next section, followed by a lessons learned discussion that offers practical suggestions to current and future instructors.

Over the past 4 decades, researchers have shown that student engagement is one of the best predictors of success in college students. More specifically, three types of engagement—time on task, interacting with other students, and interacting with faculty— seem to predict whether students will succeed during their time on campus or fall by the wayside. Bryan Saville, describes interteaching, a new pedagogical tool that has its roots in behavior analysis and that teachers might find useful for promoting student engagement. A growing body of research has shown that interteaching increases student learning, critical thinking, and student enjoyment.

In their chapter on *The Democratic Academy,* Kerrie Baker and her colleagues present the results of a project to increase student engagement in the classroom, the community, and the political process. The project was based on the idea that incorporating the skills of civil and political engagement into classroom instruction and management will increase the likelihood of students becoming both active learners and engaged citizens. The findings of this study suggest that using the strategies of student engagement can promote the value students attach to civic engagement, change the way students engage with the community, and enhance their sense of efficacy to serve as leaders.

Section 4: Student Engagement Techniques

In this section, we describe several techniques that can be used in a variety of courses to promote student engagement. Using electronic methods of polling students for facts or opinions is a recent innovation to increase student engagement. "Clicker" input has evolved from hard-wired to infrared to radio frequency to cell phones. E-polling allows for student anonymity, recording student responses, more efficient classroom demonstrations, and testing student understanding. Students like to use clickers

and report higher levels of engagement. The evidence concerning increased learning with clickers is mixed. Smith and Hill present three examples of the use of clickers in psychology classrooms. They note that clickers are tools that faculty can use to affect engagement and learning rather than a pedagogical technique that can be applied indiscriminately.

Over the past decade there has been increased emphasis in higher education on restructuring the learning environment in a way that is more learner-centered and encourages students to take a more active role in their learning. Active learning exercises enhance student learning, increase student confidence with class materials, and improve student satisfaction with the course. Isabel Cherney's chapter describes what active learning is and why it is important, the barriers to implementing active learning in the classroom. He provides examples of learner-centered strategies that are easily incorporated into both face-to-face and online teaching environments.

Reflective journaling is a strategy professors use to promote student thought, inquiry, and synthesis of information through application of course material to student's lives. It also promotes active learning, critical thinking, and the use of alternative forms of communication by students. Fritson and her colleagues' chapter discusses the benefits of reflective journaling, considerations related to using journaling in courses, and describes two specific examples of journaling the authors use in their psychology courses. Additionally, the authors discuss the mutually beneficial attributes of reflective journaling for students and instructors and how reflective journaling enhances student engagement.

The chapter by Becker, Miller, and Bishop gives provides instructions for a motivational intervention that has helped students re-engage in learning activities (such as reading textbooks) during the semester. The activity encourages students to consider the benefits and costs of learning behaviors in a way that is persuasive and encourages re-engagement. The in-class intervention has been designed to take 15-20 minutes of class time and has been tested in multiple courses across disciplines such as philosophy, business and psychology and in both large and small classroom settings.

Peer learning is an effective means by which students can acquire the content of a course. The research literature on peer learning has concentrated primarily on traditional science disciplines, most notably physics. In his chapter, John Murray argues that the principles underlying the success in peer learning in traditional science disciplines can also apply to psychology. To illustrate, the author describes an effort piloted at Georgia Southern University. The Peer Mentoring Center is a system

where advanced undergraduates mentor beginning students across several courses. The pilot was demonstrated to be effective, thus extending peer learning models beyond traditional sciences to the domain of psychology.

The playlist provided by Peden and Domask includes discussions of student engagement and student learning outcomes followed by a review the literature on podcasting in higher education and comments regarding the lessons learned. For their swan song, they propose that teachers pondering podcasts should download articles and resources for ideas, turn up the volume on creativity, plug headphones into the possibilities of podcasts, listen to the harmonic sounds of engagement for both instructors and students, and seize the opportunities for the scholarship of teaching and learning on podcasts.

The chapter by Ciarocco, Dinell and Lewandowski focuses on how to facilitate connections between course material and students' broader experience by intentionally increasing the self-relevance of class content. This is done with the hope that students will evolve from surface or strategic learners into deep learners. The authors make suggestions on how to accomplish this goal through both general teaching style and specific assignments. Several ways in which technology can be used to enhance the connection between psychological concepts and personal experience are discussed, including using discussion boards and wikis. Additionally, suggestions are made on how to integrate psychology and popular media to increase self-relevance.

Heath Marrs suggests that a teaching strategy that holds promise for increasing learner engagement in psychology is Team-Based Learning (TBL). This is a specific cooperative learning strategy in which students are assigned to a learning team for the duration of an academic course. Throughout the course, students complete a number of learning activities both individually and as a team that focus on acquisition of course content as well as the application of content to various real-world situations. In the first phase of learning, students complete assigned readings and then take an individual and a team test over the assigned content. After the basic content of the course is acquired in the first phase, class time is devoted to applications of the content through in-class problem solving activities.

Instructor-guided class discussions can facilitate students' participation and learning. Discussion may occur at different levels (e.g. student pairs, whole class) and may be connected to lectures, student presentations, or written assignments. The variety of classroom discussion types share the common features of promoting students' critical thinking and to allow for balanced contributions from the instructor and students. Williams and Villanueva review strategies for guiding discussion in two psychology courses. For Adolescent Psychology, discussion activities are connected to two course assignments—an online blog and a wiki. In Theories of Personality, guided discussion connects research and theory on Freudian psychoanalysis.

Aronson's jigsaw technique promotes student engagement by reorganizing the classroom from a traditional competitive learning environment to one where small, interdependent work groups elicit active cooperation and make every student critical to success. Perkins and Tagler describe the origins of the jigsaw approach, explain its implementation, and discussed a conceptual foundation that supports its effectiveness. They also review brief examples of its use in undergraduate psychology courses, and offer some cautions for instructors interested in using the jigsaw method.

E-portfolios are gaining prominence in some areas of higher education. As an electronic repository of personal artifacts the e-portfolio can provide evidence of student learning and reflection on their learning. In his chapter, Vigorito discusses how *course e-portfolios* can be incorporated efficiently into psychology courses by using the familiar Microsoft Office programs while requiring some deeper uses of these programs. The *course e-portfolio* helps engage students in their learning of course content, creates learning resources that students can transport to other courses, and helps develop technical competence.

Peden, Jansen and Thoftne's chapter explores how educators can use a familiar technology to engage online students. They describe the *insert comment* technique and present case studies illustrating its efficacy. They also discuss related strategies for promoting student engagement, suggest further research, and discuss ways to adapt the *insert comment* technique to meet instructors' pedagogical goals. Their case study evidence for enhanced student engagement is qualitative rather than quantitative and further research is necessary to satisfy standards of evidence based best practices. Educators can easily adapt the technique to explore how students regard psychology course content in both online and face-to-face courses.

Section 5: Special Opportunities for Engagement

The first class of the semester can be the best time to model the skills, qualities, and engagement strategies that instructors want to see in their students. Instructors can use the first class to set

goals regarding course structure, content, motivation, climate, and learning about students. They can tie these goals to multiple types of engagement and to specific techniques. Handelsman's chapter includes descriptions of a range of specific techniques and an annotated bibliography for enhancing the first class. .

Advice to teachers about what to do on the first day of class is fairly plentiful in the pedagogical literature. Less frequently, psychology teachers write about the last day of class and the potentially transformative influence of endings. In Ken Keith's chapter, he discusses the significance of a memorable ending and its possible role in students' perception of a course and their subsequent engagement with lifelong learning. Ken describes two techniques—an end of class letter and a reading list—and his efforts to use them as a meaningful way to end the course.

In his chapter, Prieto discusses the constructs of white privilege, male privilege, heterosexual (straight) privilege, and socio-economic privilege and how these cultural privileges can operate in the classroom and create a serious obstacle to student engagement. In addition, he offers instructors suggestions as to how they can detect and work to eradicate aspects of cultural privilege from their classrooms.

Increasing the engagement of LGBT (lesbian, gay, bisexual and transgender) students first means recognizing the potential for increased levels of anxiety that are often part of having a stigmatized social status. This increased anxiety, along with other impediments such as increased time negotiating services on campus, can lead to reduced success in the classroom. Instructors of psychology are uniquely positioned to serve as touchstones for LGBT students and as models of inclusivity to students in the majority. In Jennifer Daniels' chapter, possible barriers to increased engagement for LGBT students are outlined and practical means of improving their learning experiences are described.

In her chapter, Haynes Mendez offer lessons she learned about engaging students in multicultural settings. She also offers commentary from instructors in South Africa, Argentina and the United States. The commentary is organized around four discussion questions, posed to each instructor. She also supports the lessons learned with personal examples and existing literature. Instructors who engage students in multicultural classrooms should find these lessons both resonant and helpful.

As the number of international students studying on university campuses grows, so too does the challenge to engage them on a personal, educational, and environmental level. Although international student organizations and clubs provide significant support, faculty members and university communities can do more to actively promote engagement within their classrooms and throughout their campus communities. The best way to promote high levels of student engagement is to develop and maintain a systemic and comprehensive initiative that is dedicated to creating a culture of student. Mims and Mims provide a number of techniques that can be used in the classroom to promote interaction. They also take a systemic look at universities environments and how to increase engagement and connections with the international students.

Section 6: Assessing Student Engagement

Faculty investment in active student engagement techniques is rewarded when these efforts are accompanied by effective, efficient student outcomes assessment. Eric Landrum offers suggestions as to how course design and assessment can inform about progress in student achievement (i.e., APA undergraduate learning guidelines). Planful course design (e.g., backward design) embeds assessment and guides pedagogy. Assessment sources (direct vs. indirect) and methods (objective vs. subjective) considered simultaneously may yield insights making assessment more productive and less onerous. Systematic reflection and access to resources can support efforts to meaningfully demonstrate what students know and can do. Given the importance of student engagement in predicting student success and perseverance in higher education, institutions need to be able to determine the level of engagement of their students.

Jeanne Butler's chapter focuses on standardized tests used at the institution level to determine the extent of student engagement in the overall learning process. Some faculty members are unaware of how they can use these types of data to improve their teaching. The chapter provides faculty with a better understanding of how specific test items on these standardized tests are directly relevant to individual classroom teaching and provide insights in the use of effective teaching techniques.

Norvell and Gelmon present a practical and easy to implement, model for assessing civic engagement that can be used by instructors, administrators and community partners to improve and increase civic engagement activities among students. Included is a conceptual framework for conducting assessments in general, and a step-by-step guide by which to develop, conduct and disseminate a thorough evaluation. A detailed matrix for student assessment is included in the appendices, as well as detailed matrices for assessing the impacts of faculty and academic institutions in fostering community-based activities that promote civic engagement.

In their chapter on assessing course engagement, Mandernach, Donnelli-Sallee and Dailey-Herbert point out that student engagement goes beyond cognitive or skill outcomes to encompass the psychosocial dimensions relevant to learning. Going beyond the relevant discipline-specific cognitive and skill objectives, student engagement highlights the attitudes and dispositions necessary for extending learning beyond the classroom experience to an intrinsic and lifelong pursuit. It is important for faculty to monitor course engagement as a function of instructional activities, assessments and overall course structure. In doing so, faculty can establish connections between disciplinary knowledge and skills and the psychosocial dimensions that support mastery of content.

Rather than viewing assessment as something that is done *to students,* Barron and Butler adopt an alternative view that assessment can be significantly improved when assessment is something done *with students*. At the two universities represented in this chapter, the authors recruited students to take on important roles to design, collect, analyze, write up, and audit assessment activities at both the department and university levels. As a result, students were key stakeholders who were engaged in all phases of our assessment programs. The authors conclude by highlighting benefits that their programs and students have experienced by working together on assessment projects.

Operation ARIES! is an interactive educational game that teaches critical thinking and scientific reasoning and provides a means of assessing both of those learning outcomes. It is an educational tool developed by experts in the learning sciences and a fantasy game with a science-fiction plot. Students learn the material by reading an eBook, engaging in adaptive tutoring with agents, applying acquired knowledge in critiques of case studies, and generating their own questions about incomplete research. Operation ARIES! was designed for students at a variety of educational levels taking introductory science (e.g., psychology, biology, and chemistry), critical thinking, and research methods courses. Heather Butler and her colleagues will introduce you to the science behind Operation ARIES and describe its use in psychology courses.

Rob McEntarffer explores the use of Single Diagnostic Items as a way to show one way to "make room" for formative uses of assessment data in teacher thinking and practice. Single Diagnostic Items are discussed in the context of the current definition of formative assessment and a case study in which a single diagnostic item is used in a college introductory psychology course. The implications of this example of formative assessment technique are discussed along with further formative uses of the assessment data.

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Acknowledgments

Section 1. Why and How Engagement Matters

Richard L. Miller, Editor

Factors that Promote Student Engagement

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To many, the ultimate goal of a university is to provide students with the skills and knowledge necessary to flourish in meaningful careers following their academic endeavors. As academics, however, we aspire to something more: to instill and cultivate in students an intellectual curiosity that will lead to lifelong learning, and to initiate change that encourages students to become independent thinkers eager to engage with the greater world community.

Accomplishing these goals requires more than commitment and aspiration on the part of faculty. It also requires the willingness of students to demonstrate an enthusiasm for engaging in their learning experience. Research over the past few decades on the effectiveness of educational practice has increasingly emphasized the importance of student engagement for achieving many learning outcomes considered central to post-secondary education. Stimulating student engagement has been shown to improve development of critical thinking skills (Pascarella, Palmer, Moye, & Pierson, 2001), enhance openness to diversity, and facilitate openness to challenge (Pascarella et al, 2006), among other important outcomes (see Miller, this book).

Moreover, enhancing engagement may simultaneously serve to increase the extent to which students construe educational opportunities as inherently interesting and enjoyable in their own right—in other words, a matter of improving *intrinsic motivation* to learn (e.g., Deci & Ryan, 1985). As a result, it is critical for university and college faculty to better understand those factors that promote engagement among students within the classroom and throughout their college career. The aim of this chapter is to outline some of these factors while focusing on individual difference variables and educational practices that contribute to engagement.

Individual Factors that Contribute to Student Engagement

Invariably, collegiate classrooms are comprised of a subset of students who enthusiastically participate on a daily basis, and others who may offer limited input throughout the course of a semester. Given the important implications student engagement

has for the acquisition of critical thinking skills (e.g., Pascarella & Terenzini, 1991; Pascarella et al., 2001) and intellectual development (e.g., Astin, 1993; Ory & Braskamp, 1988), it is important to identify individual factors that contribute to such differential classroom engagement.

To this end, researchers have identified several individual difference variables that influence student participation, including perceptions of personal control and autonomy (Boggiano, Main, & Katz, 1988), perceptions of a supportive environment (Fassinger, 1995; Nunn, 1996), level of achievement motivation (e.g., Blankenship, 1987; Feather, 1961), and achievement goal orientation (e.g., Ames and Archer, 1988).

Perceived Control and Autonomy

Research linking students' perceived control with intrinsic motivation and scholastic performance abounds (see Perry, 1997). *Perceived control* (i.e., locus of control) refers to an individual's perceived capacity to exert influence on his or her social outcomes (e.g., Rotter, 1966; DeCharms, 1968). While some individuals (i.e., internals) believe they possess substantial capacity to control their personal outcomes, others (i.e., externals) perceive their outcomes to be largely the product of external forces beyond their control. Such differences can have substantial implications for student engagement in the classroom. Boggiano et al. (1988) argued that externals experience lower levels of intrinsic interest and preference for challenge in their academic endeavors than do internals. This reasoning is in part predicated on self-determination theory (SDT; Deci & Ryan, 1985)—one of the foremost theories of intrinsic motivation on the market.

According to SDT, individuals experience the highest level of task interest when their decision to engage in and the outcomes of the task are self-determined—initiated by the individual. Thus, if a student believes that his or her academic outcomes are driven by factors beyond their personal control (e.g., professors, peers, test format), they may be less likely to find interest in engaging in class-related activities than someone who perceives their outcomes as autonomously determined.

Consistent with this position, Boggiano et al. (1988) showed that students with higher perceptions of personal control expressed greater desire for completing class assignments to satisfy their own interests and curiosities, and, a greater preference for challenging as opposed to easy class activities, than did students with lower perceptions of personal control. In other words, internals were simply more engaged in their learning experience than were externals.

One challenge for faculty is thus devising instructional methods that will ignite interest in their externally oriented, less engaged students. A teaching model developed by Perry (1997), provides a possible approach to motivating these students. Perry (1997) devised a framework linking specific teaching techniques to various information-processing effects that occur during student learning.

Of particular relevance to the current discussion, Perry (1997) argues that adopting an expressive teaching style—making use of movement and voice inflection, for example—is one technique that may elicit attention from students with lower levels of intrinsic interest in academic engagement, particularly during the early stages of a course. In fact, Perry and Dickens (1984) argue that expressiveness may even serve to *engender* an internal-locus orientation in students, which according to Boggiano et al. (1988), may subsequently heighten students' intrinsic interest in their academic pursuits. Thus, faculty aiming to promote student engagement in the classroom may benefit from optimizing the use of expressive techniques in their instructional methodology.

Perceptions of a Supportive Environment

In assessing the influence of various classroom, student, and faculty characteristics on student classroom engagement, Fassinger (1995) and Nunn (1996) discovered that among the strongest predictors of classroom participation is students' perceptions that the classroom environment is supportive. Fassinger (1995) showed that even after controlling for factors such as student confidence and interest in the subject matter, the emotional climate of the classroom—how supportive, empathetic, and cooperative peer interactions were perceived to be—significantly predicted students' classroom engagement.

Similarly, Nunn (1996) found that, not only did students view supportive atmospheres as welcoming for class participation, but the frequency of teacher behaviors said to promote supportive atmospheres (e.g., using student names, praising students, using affirmative responding) correlated positively with the amount of time spent in participation, and the number of students participating during a given class session.

Therefore, faculty could maximize engagement by showing concern for student progress, addressing students by name and by providing a supportive atmosphere for students of all levels and backgrounds. Further, faculty should strive to include classroom activities that cultivate a positive emotional climate, encourage questions and comments, and exhibit tolerance of alternative viewpoints. Fassinger (1995) suggests incorporating semester-beginning activities such as allowing students to design their own norms for classroom interaction, or implementing small group discussions to address confidence-building and confidence-diminishing classroom behaviors may impact students' willingness to participate. Together, such activities may enhance students' perceptions that the classroom environment is supportive.

Achievement Motivation and Goals

Another individual factor that accounts for variability in student engagement is differing levels of *achievement motivation* (e.g., McClelland, Atkinson, Clark, & Lowell, 1953). Initially conceptualized as *need for achievement* (Murray, 1938), achievement motivation refers to one's dispositional tendency to engage in or seek achievement-oriented behaviors, and, to desire to do things well. Individual differences on this dimension have obvious implications for a student's proclivity to engage in academic-related behaviors. If a student exhibits a general desire to pursue academic endeavors, and, to do so at a high level, he or she will be more likely to engage in learning experiences with greater enthusiasm than a comparable student with a lower need to achieve.

Consistent with this perspective, research has shown high need for achievement students demonstrate greater persistence in the face of task difficulty (Feather, 1961; Lowell, 1952), exhibit better classroom performance (Atkinson & Litwin, 1960), and are quicker to engage in achievement-related tasks (i.e., less likely to procrastinate; Blankenship, 1987) than their low need for achievement counterparts.

Contemporary research has also highlighted the importance of identifying a student's achievement goal orientation, in addition to level of motivation, to better understand his or her achievement-related behaviors. Among the most well researched achievement goal frameworks is the differentiation between *mastery* and *performance* goals (e.g., Ames & Archer, 1988; Dweck, 1986). Adoption of mastery goals entails striving to attain competence relative to a self-set standard—in other words, aiming to

improve oneself by developing new skills through persistence and effort. By contrast, adopting performance goals entails working toward an *other-set* standard—aiming to demonstrate competence and high ability by outperforming other individuals.

Differentiating between those adopting mastery and performance goals in their academic pursuits is critical to better understanding student engagement, as the respective orientations have been shown to produce divergent ways of thinking about the academic experience. In comparison to performance goals, individuals who adopt mastery goals are more likely to be intrinsically rather than extrinsically motivated (e.g. Heyman & Dweck, 1992), use conceptually based learning strategies rather than superficial memorization strategies (e.g., Meece, Blumenfield, & Hoyle, 1988), demonstrate deeper cognitive engagement (Walker & Greene, 2009), show preference for challenging tasks that permit learning over simple tasks that allow for easy demonstrations of ability (Ames & Archer, 1988), and are more likely to ask for help when facing a challenge (e.g., Newman, 1991).

Thus, across a variety of measures, adoption of mastery goals elicits more productive engagement-related outcomes than does adoption of performance goals. Thus, faculty should foster a classroom environment that encourages the embracing of mastery rather than performance orientations, if they wish to promote student engagement (Walker & Greene, 2009). Ames and Archer (1988) argued that such a climate can be effectively created by, among other practices, defining success as improvement and progress (rather than as high grades), emphasizing the value of effort and learning (rather than focusing narrowly on high ability), explaining errors and mistakes as a natural and productive part of the learning process, and by evaluating students on absolute progress rather than by normative comparisons.

Educational Practices that Contribute to Student Engagement

In addition to identifying various individual factors that contribute to student engagement, literature highlighting the effectiveness of particular educational practices in facilitating student engagement has also evolved. Examples of such practices include promoting diversity experiences (e.g., Pascarella, et al., 2001), creating shared-learning opportunities (e.g., Tinto, 1997), maximizing student-faculty interaction (e.g., Endo & Harpel, 1992), involving students in active learning (Kuh, Pace, & Vesper, 1997), and setting high

expectations (e.g., Arnold, Kuh, Vesper, & Schuh, 1993), among others.

Diversity Experiences

The unique learning atmosphere afforded to students attending institutions rich in cultural, racial, political, and religious diversity enhances the likelihood that they engage in interactions and learning opportunities with a broadened worldview. An increasing body of literature focuses on the influence of student involvement in diversity experiences on cognitive development and learning engagement. To illustrate, Gurin (1999) examined whether students' involvement in diversity experiences promoted growth in engagement, motivation, and active, complex thinking (e.g., enjoy analyzing reasons for behavior, prefer complex rather than simple explanations).

More specifically, Gurin (1999) focused on how experiences such as addressing diversity issues in class, engaging in diversity discussions with peers of another race or ethnic group, and attending various multicultural events shaped students' cognitive development. Results of her comprehensive analysis indicated that, after controlling for several possible confounding variables, students with greater diversity experiences self-reported an increase in drive to achieve, intellectual engagement, and thinking complexity compared to those with fewer diversity experiences.

Pascarella et al. (2001) also demonstrated gains in students' critical thinking capacity with increased diversity experiences using an objective measure of critical thinking as opposed to self-report. Taken in conjunction with others who have documented parallel positive influences of diversity experiences (e.g., Astin, 1993; Hurtado, 1999), it is clear that diverse campus environments generate a learning atmosphere conducive to student engagement.

These findings offer compelling support for institutions' efforts to increase diversity among students, faculty, and administration and suggest that such efforts may be critical to maximizing students' critical thinking development during their college experience. Moreover, they also suggest an avenue for faculty to promote engagement among students in their classrooms—challenge students with diversity issues in class, and encourage them to take advantage of the many cultural events that their campus (and greater) communities afford.

Shared-Learning Opportunities

An accumulation of research has also documented the positive impact of collaborative, shared-learning experiences on student engagement and development (e.g., Astin, 1993; Cabrera et al.,

2002; Cockrell, Caplow, & Donaldson, 2000; Tinto, 1997). Collaborative learning redefines the learning experience as a social construction of knowledge (Vygotsky, 1978).

It is a means of approaching a singular topic from diverse perspectives that ultimately promotes deeper integration and reorganization of new and existing knowledge, resulting in substantial gains in student learning and engagement outcomes. Using a longitudinal design,

Tinto (1997) investigated whether involvement in a structured, student integration program would promote student engagement and development beyond that obtained in a normal classroom setting. To do so, Tinto (1997) enlisted students enrolled in the Coordinated Studies Program (CSP) at Seattle Central Community College, a program aimed at providing students an atmosphere in which they can share the curriculum and actively learn with their peers. As part of the program, students enrolled together in several courses tied together by a unifying theme for the entirety of a semester—a format differing drastically from a conventional curriculum approach in which students independently enroll in individual, unrelated courses.

Over the course of an academic year, Tinto (1997) collected data on various quantitative and qualitative measures of student involvement, learning, and persistence and compared outcomes on these measures to those of a comparison group enrolled in conventional curricula at the same institution. Results indicated that, almost uniformly, students enrolled in the integrated curriculum reported greater involvement in course related activities, writing activities, engaged more frequently with faculty and peers, and spent more time in the library than did students enrolled in conventional courses. In other words, collaborative learning produced more deeply involved students.

Perhaps more importantly, results from Tinto's (1997) qualitative analysis suggested that many of the gains observed could in part be attributed to the development of learning communities that extended beyond the classroom. Students enrolled in CSP reported spending more time outside of class conversing about exams, homework assignments, and carrying on course-related discussions that had originated in the classroom. Thus, not only did collaborative learning lead students to become more involved in class-related activities, but it also lead them to engage more deeply *intellectually* in and out of the classroom..

Another innovative collaborative technique that has been shown to positively impact student engagement is problem-based learning (PBL; Barrows, 1986). PBL consists of challenging groups of students to solve various content-related problems presented to them in case form. More specifically, collaborative groups are required to work together to identify, explore, and analyze issues related to the case they are presented, and through the use of peer teaching, must reach a solution for their case problem (Cockrell et al., 2000). As with all collaborative learning techniques, PBL encourages students to think deeply about course material and to develop a shared knowledge through the presentation of unique perspectives among peers. Cockrell et al. (2000) showed that students involved in PBL reported increased engagement in self-directed learning activities, increased engagement in critical reasoning processes, and conveyed that their learning was more dynamic and active compared to the learning experienced in conventional curricula. Similarly, Bernstein, Tipping, Bercovitz, and Skinner (1995) found that students engaged in PBL reported thinking about course material more deeply than when in conventional courses, where often the primary aim is to memorize material. These findings suggest another avenue by which faculty can promote engagement in their classroom—incorporate shared learning opportunities. Whether it is through the use of PBL techniques, a student integration program, or simply small-group collaboration, allowing students to actively learn from one another both in and outside of the classroom affords them tremendous gains in academic interest and development.

Student-Faculty Interaction

Increasing student-faculty interaction integrates students more deeply in their educational experience. Research indicates that the degree of student-faculty interaction influences a variety of important educational outcomes, including student engagement (e.g, Astin, 1993).

In a representative study, Endo and Harpel (1982) explored how different types of student-faculty interactions impact various student outcomes. Specifically, they distinguished between formal interaction—interaction restricted to discussion of academic and professional pursuits—and informal interaction, in which faculty engaged in more friendly exchanges that expressed a broader concern for student growth and development. Results of their analysis revealed that frequency of informal student-faculty interaction had a substantially greater impact on student outcomes than did frequency of formal interactions (after controlling for several student characteristics). Related to student engagement, increased informal interaction predicted improved development of problem-solving skills (i.e., seeking the best possible answer even if it takes a long time; seeking knowledge for its own sake) and facilitated

progress toward intellectual goals (i.e., acquiring skills for self-directed learning; acquiring abilities to raise questions), while also improving satisfaction with the college experience. Frequency of formal interactions, by contrast, proved to have minimal impact on student outcomes.

Similar positive effects of student-faculty interaction were documented by Astin (1993). Though he utilized a composite measure that collapsed across formal and informal exchanges, Astin (1993) showed that frequency of student-faculty interaction correlated positively with several aspects of intellectual and personal growth, including desire to contribute theoretically to science. As Endo and Harpel (1992) note, these findings should remind faculty that they can make a difference in students' educational experience. To promote engagement, faculty must make themselves more available to students, and not solely for discussing an upcoming exam—but also to interact with students on a personal level. They must show a willingness to informally discuss a broad range of topics that will help students grow both intellectually, and personally. They must be mentors, not merely educators. In so doing, faculty will not only generate satisfaction among their students, but they will also heighten students' desire to engage in their academic experience.

Active Learning

Another educational practice shown to be effective for promoting student engagement is the incorporation of active learning techniques (Kuh et al., 1997). Active learning is considered an essential practice for producing valued outcomes in higher education (Chickering & Gamson, 1987). Examples of active learning practices include writing and revising papers; searching for references online and in print; completing assessments that measure abilities, interests, or attitudes; summarizing or outlining major points from readings or class notes; participating in classroom discussions; and reading articles or references that are frequently cited by other authors (see Kuh et al., 1997, for a more comprehensive list). To investigate the importance of active learning for student development, Kuh et al. (1997) examined how increases in three important educational practices—student-faculty interaction, cooperation among students, and active learning—influenced intellectual and educational gains. Results revealed that involvement in active learning accounted for more variance in student gains than did either of the other two practices. Increased active learning was associated with a greater ability to pursue ideas independently, a greater ability to find and synthesize information, greater interest in

broadening one's general education, and more desire to learn on one's own. Thus, to promote student engagement in the classroom, we suggest faculty incorporate activities and assignments in the curriculum that require students to utilize active learning strategies like those outlined in Kuh et al. (1997).

These strategies include creating assignments that challenge students to seek answers beyond those presented in their basic textbook; ensuring that thought-provoking discussions and debates are a normal classroom occurrence; asking students to generate a bibliography or annotated bibliography of references on a particular topic that they may use in a later paper; or incorporating summary assignments in which students are required to synthesize and integrate important concepts from assigned readings. Such active learning practices should enhance students' proclivity to engage in their learning experience.

High Expectations

Certainly, a major component of students' college experience involves setting and trying to exceed one's own goals and expectations. Such standards may be self-imposed, come from friends and family, or, may be inherent in the educational environment of one's academic institution. Regardless, research has shown that experiencing high levels of expectation to perform produces greater engagement among students in academic (Arnold et al., 1993) and cognitive tasks (Locke & Latham, 1990). Arnold et al. (1993) sampled more than 3,000 students from six universities to investigate how student involvement in campus activities, and differences in institutional environment, impact various learning outcomes. Among their relevant findings, Arnold et al. (1993) found that the more students perceived their institution to emphasize the importance of scholarship, competence, and critical thinking, the more they desired to learn independently, pursue intellectual ideas, and gain knowledge in an array of disciplines. In other words, the higher the intellectual expectations set by the institution, the more engaged students tended to be.

Locke and Latham (1990) argued for similar positive effects of high expectations in their theory of goal setting and task performance. Termed the *goal difficulty function*, Locke and Latham (1990) contend that setting higher, more difficult goals for oneself leads to better overall task performance than does setting more easily attainable goals. Moreover, they argue that setting *specific,* high goals, as opposed to "do your best" goals, also facilitates performance. To support their position, Locke and Latham (1990)

point to several reviews (e.g., Locke, Shaw, Saari, & Latham, 1981; Steers & Porter, 1974) and meta-analyses (e.g, Mento, Steel, & Karren, 1987; Wood, Mento, & Locke, 1987) of the goal setting literature that provide overwhelming support for the goal difficulty effect.

Of particular relevance to the current chapter, however, are the mechanisms by which Locke and Latham (1990) argue the goal difficulty function operates. They contend that higher goals require individuals to put forth more intense effort, to be more persistent in their efforts over time, and to focus more energy on goal-relevant activities (and away from goal-irrelevant activities) than do easier goals. In other words, higher goals simply compel individuals to be more engaged in what they are doing.

Keep in mind that there are limits on the extent to which increasingly higher goals will produce comparable increases in subsequent effort. For highly complex tasks (Wood et al., 1987) or goals that appear unattainable (Oettingen, 1996), the positive effects are drastically reduced. Nevertheless, for the majority of tasks, assignments, and standards set within an academic setting, encouraging students to pursue difficult goals will likely yield higher performance and engagement.

These findings should remind faculty the influence they can have in promoting engagement within their courses, and more broadly, within students' academic experience. Faculty should be explicit in setting their classroom expectations high; emphasize the importance of being well educated; advocate for the value of scholarship; and encourage students to strive for competence within their vocation. Moreover, faculty should encourage students to aim high with their own academic and professional goals—so long as they fall within the realm of realistic probability. In so doing, faculty can create an atmosphere in which high scholastic expectations serve to ignite student effort, persistence, and engagement as they work toward meeting challenging goals.

Summary

Maximizing student engagement is critical to achieving many of the educational outcomes considered central to collegiate education. In this chapter, we presented several factors researchers have identified as influential in encouraging engagement in the classroom. We discussed several individual difference variables, such as perceived control, perceived support, achievement motivation, and achievement goal orientation and how they impact level of engagement.

We also addressed several educational practices, including promotion of diversity experiences, introduction of shared-learning opportunities, maximizing student-faculty interaction, generating active learning, and setting high expectations and how they contribute to student engagement. We also provided suggestions for faculty to enhance engagement in their classroom based on the research findings relevant to each factor.

It is important to note that this list of engagement factors is by no means intended to be exhaustive. Certainly, there are additional individual and educational variables that contribute to engagement, as well. However, generating an exhaustive list was beyond the scope of this chapter, and thus we chose to highlight just a few that we feel are well researched and shed light on student engagement patterns. Our hope is that by providing a better understanding of some fundamental variables that reliably influence student participation and development, faculty will be better prepared to tailor their curriculum and teaching techniques to maximize the engagement that occurs in their classroom.

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Outcomes Associated with Student Engagement

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Why should we care about student engagement? According to Fredricks, Blumenfeld and Paris (2004), there are historical, economic, theoretical and practical reasons for the recent focus on student engagement. From the historical perspective, educational institutions can no longer assume that those admitted to their ranks are motivated to take advantage of what is offered. From an economic perspective, our global, rapidly-evolving economy requires workers who can think critically, adapt to change, and solve problems. From the theoretical and practical perspective, the 1980's brought about a paradigm shift in academics' views of the factors that constitute excellence in post-secondary education (Koljatic & Kuh, 2001). Previously, the quality of education provided by an institution was thought to be inextricably linked to the institution's resources and reputation. However, the *Involvement in Learning Study* (The Study Group on the Conditions of Excellence in Higher Education, 1984) challenged this view by asserting that quality of education should produce direct links between good educational practices and positive outcomes for students (Pascarella, Palmer, Moye & Pierson, 2001; Kuh, 1995; Kuh et al., 1991; Astin, 1993; Pascarella et al., 2006). The study suggested that factors considered to be good educational practices should have strong links to post-occupational status and income (Avalos, 1996), growth in leadership and job-related skills (Astin, 1993), development of critical thinking skills and other cognitive measures (Pascarella et al., 2001), openness to diversity and challenge (Pascarella et al., 2006), and increases in student retention (Kuh, 1995; Kuh et al., 1991).

To insure that our educational institutions are meeting these challenges, in recent years colleges and universities have been required, by a variety of governmental and educational sources, to identify whether they are providing students with the types of educational experiences students expect. In addition, institutions have been asked to provide data indicating the opportunities they provide for students to attain the occupational and personal benefits that prepare them for a dynamic workplace and for engagement in an increasingly diverse world (Fredricks et al., 2004; Pascarella, Edison, Nora, Hagedorn & Terezini, 1996).

The reasons that students attend college vary widely, but researchers have identified a number of factors that typically motivate students to devote the considerable personal and financial resources necessary to obtain a college degree (Astin, 1985; Kuh, Schuh, & Whitt, 1991). Traditional first-year students tend to cite future financial well-being and ability to engage in leisure activities as their primary motivations for attending college (Astin, 1985). However, as students progress further into their educational programs, they often identify additional motivators for continuing their education, including moral, emotional and cognitive development; quality of family life; and preparation for their future occupation (Astin, 1985, Kuh et al., 1991).

Researchers have identified several domains for which student engagement has been shown to make a difference in student outcomes, including the development of cognitive and intellectual skills, adjustment to college resulting in high rates of retention, personal growth and psychosocial development, as well as long-term benefits extending well beyond the college years (Astin, 1977; Astin, 1993; Kuh, 1995; Pascarella & Terenzini, 1991).

Cognitive and Intellectual Skill Development

High motivation and engagement in learning have consistently been linked to increased levels of student's academic success in a variety of ways (Blank, 1997; Dev, 1997; Kushman, 2000; Woods, 1995). Student engagement has been shown to play an important role in the acquisition of critical thinking skills and other cognitive abilities (Pascarella et al., 2001), the development of cognitive and intellectual skills, (Anaya, 1999), the acquisition of knowledge and the development of problem solving skills (Johnson, Johnson, & Smith, 1998). Engaged students earn better grades (Tross et al, 2000) and exhibit increased practical competence along with the ability to transfer their skills to new situations (Kuh, 1993; 1995).

Robbins et al. (2004) conducted an integrative meta-analytic review of the degree to which student engagement predicts college success. The measures of success were college academic performance as

measured by GPA, and retention or persistence toward a degree. The authors categorized over 100 studies along nine constructs assumed to relate to college success. One of the constructs, academic-related skills, was found to relate to college performance, and somewhat surprisingly, even more strongly to retention. Moreover, academic-related skills when combined with the constructs of social involvement, institutional commitment, and social support showed incremental validity in predicting retention.

Carini, Kuh, and Klein (2006) examined the different forms of student engagement associated with learning outcomes based on the RAND tests, college GPA, and the essay prompts on the GRE. The study was conducted to determine (1) the extent to which engagement is related to measures of academic performance; (2) which forms of engagement are related to performance; (3) whether student engagement and performance are "conditional" or vary with student characteristics; and (4) whether some academic institutions are more effective in using student engagement to enhance student performance. RAND researchers administered NSSE and the RAND cognitive tests to 1,352 students at 14 four-year colleges and universities. The participating colleges represented a mix of institutional and student characteristics. The results of the study indicated that there is a positive relationship between student engagement and learning outcomes such as critical thinking and grades, although the relationship is weak. Two additional findings were of interest. College students with lower SAT scores seemed to benefit more from student engagement than those with the highest SATs. The analysis also indicated that certain academic institutions are able to use student engagement more effectively to increase student performance than are others.

A study conducted at 18 four-year institutions and five community colleges examined the net effect of 10 specific diversity experiences on end-of-year critical thinking for first-year students. Students at the four-year institutions were tracked through their third year of college to determine which of the 10 diversity experiences influenced the acquisition of critical thinking skills by the end of the year. The initial data collection included 3,840 students and the second phase included 1,113 third-year students. Results indicated that students involved in diversity experiences during college demonstrated statistically significant positive effects on their scores on an objective, standardized test of critical thinking skills (Knight, 2009).

Astin (1993) suggested that student-student interaction and student-faculty interaction in the learning environment are the two major influences on college effectiveness. McKeachie and his co-authors (1986) found that student participation in class, teacher encouragement, and cooperative student-student interaction contributes to developing critical-thinking skills. A review of over 305 studies conducted since 1960 provides insights into the impact of cooperative, competitive, and individualistic learning on individual achievement in college and adult settings. The results of 168 studies focusing on the type of learning and academic achievement found that cooperative learning promotes higher individual achievement than do competitive approaches. The relevant measures of academic success include knowledge acquisition, retention, accuracy, creativity in problem solving and higher-level reasoning. Other studies found cooperative learning promoted meta-cognitive thought, willingness to take on difficult tasks, persistence in working toward a goal, transfer of learning and greater time on task (Johnson, Johnson, & Smith, 1998).

The National Center for Higher Education Management Systems (NCHEMS) conducted a study with data from six South Dakota public colleges and universities. They found modest, positive links between student engagement and ACT CAAP scores. NCHEMS attributed the limited results to the length of time between administration of the student engagement surveys and when the CAAP scores were obtained (Ewell, 2002). Hughes and Pace (2003) reported positive relationships between NSSE results and both GPA and persistence.

The importance of engagement as a mediating factor in student success was explored by Salanova, Schaufeli, Martinez and Bresó (2010). They found that obstacles and facilitators of success exert an indirect affect on performance by way of psychological states such as well-being. In a study that examined the grades of 527 university students, they concluded that positive psychological states like academic engagement are more important in explaining academic performance than negative states like academic burnout.

Despite the many studies linking student engagement to academic performance, the question remains as to whether it is the college experience or the general ability of the student that shapes grades. To address this question, RAND and the Council for the Aid to Education are developing new measures of college level learning. Their goal is to create better indicators of student learning than GPA (Klein, 2002; Klein et al., 2005) and to parcel out the effects of student ability prior to matriculation.

College Adjustment/Retention

Several researchers have examined the relationship between student engagement and college adjustment (Cabrera et al, 1999; Kuh, Palmer & Kish, 2003). Tinto (2000) suggests that engagement is not only positively related to persistence, but is the most significant predictor of persistence. He contends that many students leave college because they feel disconnected from fellow students, faculty members, and the institution. Knapp et al. (2005) found that about 35% of undergraduates at four-year institutions receive their bachelor's degrees in four years and 56% graduate in six years. Svanum and Bigatti's (2009) study of 225 undergraduate students enrolled in an abnormal psychology class at a large urban state university found that academically engaged students were 1.5 times more likely to graduate and required approximately 1 semester less to complete their degree. While there are several studies that show a relationship between student engagement and retention, (Tinto, 2005; Bean, 1990; Kuh, 1995; Pascarella & Terenzini, 2005; Stage & Hossler, 2000; Bridges et al, 2005), the work by Bean (2005) is of particular interest since he focuses on institutional commitment as a predictor of persistence and maintains that commitment is strengthened when undergraduates engage in activities that connect them to the campus through a sense of obligation or responsibility. Students who assume leadership roles in student organizations feel that others depend on them. This is also true for students who feel they make important contributions to learning through class discussions and other activities in the classroom (Bean, 2005; Sail, Redd, & Perna, 2003; Tinto, 1993). In his book, *Leaving College* (1994), Tinto summarizes recent evidence by saying:

> Simply put, the same forces of contact and involvement that influence persistence also appear to shape student learning. Though the research is far from complete, it is apparent that the more students are involved in the social and intellectual life of a college, the more frequently they make contact with faculty and other students about learning issues, especially outside the class, the more students are likely to learn (p. 69).

Personal Growth/Psychosocial Development

Student engagement is positively correlated with psychosocial development and identity formation (Evans, Forney & Guido-DiBrito, 1998; Harper, 2004; Harper & Quaye, 2007; Torres, Howard-Hamilton, & Cooper, 2003), including moral and ethical development (Evans, 1987; Rest, 1993), increased openness to diversity and challenge (Pascarella, et al., 2006) and significant decreases in characteristics such as irrational prejudices, political naiveté, and dogmatism (Pascarella & Terenzini, 1991).

Researchers in the Wabash National Study of Liberal Arts Education (WNSLAE) conducted a longitudinal (pre-post design) study in Fall 2006 and Spring 2007 with 3,081 first-time students at 19 institutions. They used the NSSE as their measures of engagement representing 5 effective educational practices including academic challenge, active and collaborative learning, student-faculty interaction, enriching educational experiences, and supportive campus environment. They then collected data on 6 outcomes including effective reasoning and problem solving (CAAP), moral character (DIT2), well-being (Ryff scales of psychological well-being), inclination to inquire and lifelong learning (need for cognition scale and positive attitude toward literacy scale), intercultural effectiveness (Miville-Guzman Universality-Diversity scale and Openness to diversity and challenge scale), and leadership (Socially responsible leadership). The results indicate that NSSE scales measure practices that positively influence cognitive and personal growth even as early as the first year of college.

Barkley, Boone and Halloway (2005) provided insights into the role of student engagement and openness to diversity. This study conducted at Kansas State University measured baseline levels of openness to diversity and diversity experience of the 724 students responding to a survey. Regression analysis was used to identify and quantify the determinants of student openness to diversity and the level of experience with diversity. Some of the determinants of openness to diversity included experience with diversity, gender, size of hometown, and desire to obtain an advanced degree. The level of experience with diversity was statistically associated with participation in courses and workshops on diversity. The results indicated that there is an opportunity to influence openness to diversity since experience with diversity was a statistically significant determinant of openness to diversity. Institutions providing experiences and formal programs to develop appreciation for diversity are likely to produce higher levels of openness to diversity among the student body.

Chang et al. (2005) and Harper and Antonio (2008) indicated that there is an incorrect assumption that students learn about diversity by simply being in contact with those who share different experiences and identities. This implies that increasing diversity

within an institution will automatically increase openness to diversity. However, the authors maintain that students must be provided with structured opportunities for interaction and dialogue to increase understanding and acceptance.

Quaye and Harper (2007) review research that indicates that interaction with diverse peers both inside and outside the classroom is positively related to positive outcomes in self-concept, cultural awareness and appreciation, racial understanding, high post-graduation aspirations and readiness to work in diverse work environments (Antonio et al., 2004; Chang, Astin & Kim, 2004; Chang, Denson, Saenz, & Misa, 2006; Harper & Antonio, 2008).

Long-term Benefits

Are there benefits of student engagement that reach beyond the classroom? According to Astin (1993), engaged students experience increases in personal competence, verbal and quantitative skills and cognitive complexity; all factors which greatly aid in success in one's occupational, personal, and social life (Astin, 1993; Kuh, 1995; Pascarella & Terenzini, 1991). Students also, in general, exit college with increases in autonomy, social maturation, aestheticism and awareness of interests, values, aspirations and religious views; all of which are believed to foster opportunities for success in the occupational and personal realm (Astin, 1977, Astin 1993). It is particularly important to note that the changes observed in students appear to be particularly related to the college experience, as their personal, emotional and cognitive gains far exceed those seen in non-college educated peers and thus cannot be explained merely by normal maturational processes (Pascarella et al., 1996). Colleges and universities aid in the development of individuals who have high cognitive abilities, highly developed personal and professional skills, increased personal direction, and social understanding that is amicable to the increasing diversity in local, national and international communities (Astin, 1993; Pascarella & Terenzini, 1991).

Engagement in good educational practices prepares students for post-graduate success (Fredricks et al., 2004; Astin, 1993; Gurin, 2002). As the United States workforce becomes increasingly more diverse in the current global economy, effective workers must be able to apply critical thinking skills in various environments with a vast array of diverse people (Fredricks et al., 2004). College students who engage in good educational practices report higher income levels and increased satisfaction with their careers as well as with the level of preparation given them by their former institution of higher learning (Astin, 1993). Not surprisingly, students who engage in good educational practices, particularly racially, culturally, intellectually and politically diverse activities, report that they are more successful in their occupations, were well prepared for their occupation, and have higher levels of community involvement than peers who do not engage in good educational practices (Gurin, 1999, Kuh et al., 1991). Student engagement has been positively linked to post-occupational status and income (Avalos, 1996), growth in leadership abilities and job-related skills (Astin, 1993), as well as the development of social capital (Harper, 2008). In summary, the results of this body of research are simple and resounding… engagement matters!

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Section 2. Programs that Promote Student Engagement I

Eric Amsel & Brenda Kowalewski, Editors

Engaging Students through Psychology Organizations

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Student engagement, and the environmental conditions that optimize this phenomenon, are continuously evolving concepts. The importance of both academic support and social ties in the development of student engagement has been widely documented in recent years by large-scale student surveys, published research, and the resulting guidelines implemented at varied institutions. As an example, Chickering and Gamson (1987) cited classic principles for good practice that offer a sound and useful foundation for institutions as they strive to engage students in the learning process. These principles consist of: student-faculty contact, cooperation among students, active learning, prompt feedback, time on task, high expectations, and respect for diverse talents and ways of learning. Further, the student perspective, as represented by selected comments reported on the 2006 National Survey on Student Engagement (NSSE), confirms that students have a need for "relationships with faculty members with whom they can discuss certain disruptions to their studies and from whom they can expect support and educationally meaningful intervention" (Chambers, 2010, p. 18-19), as well as the opportunity for involvement in extracurricular activities that provide quality interaction with peers and faculty (Ullah & Wilson, 2007). As empirical evidence emerges, it reveals that student organizations are integral components in honoring the stated principles and reported needs, specifically by encouraging and supporting student engagement in both the academic and social realms. Schuetz (2008) contends that the "campus social-cultural systems that support student experiences of belonging, competence, and autonomy should spontaneously inspire engagement" (p. 312).

Western Kentucky University (2010) lists the following activities, among others, in its *Taxonomy of Student Engagement*: faculty members talking about career plans with students; faculty working with students on activities other than coursework; students participating in community service or volunteer work; faculty members being available, helpful, and sympathetic; students developing capacities for leadership; students becoming involved in community and society; and specifically student

participation in organizations. Emporia State University lists five levels of student engagement in its "Pyramid of Success" (Jobe & Soyez, 2005; Weaver, 2008): leadership development, membership commitment and dedication, effective programming, developing traditions, and professional development. Skinner and Belmont (1993) indicate that the presence of psychology clubs and academic honor societies, such as Psi Chi, on college campuses does much to address these activities, as it encourages interaction between students and instructors, and sets the scene for a mentoring relationship that can foster leadership abilities and provide students with the guidance necessary to fully participate in the educational experience.

The social life of a student has positive impact on his or her overall college experience. The transition to college is determined by the way students make the transition, and how well students form connections and adjust to campus life (Jalomo, 1995). Academic and social integration with faculty and peers is vital for a) making campus connections (Cuseo, n.d.; Davies & Casey, 1999), b) fostering students' development and satisfaction with the overall college experience (Astin, 1993; Kuh & Hu, 2001), and c) contributing retention and academic success (Astin, 1977, 1993; Handelsman, Briggs, Sullivan, & Towler, 2005; Kuh & Hu, 2001).

The value of participating in psychology club is not initially apparent to all new psychology students. Most college students are intensely busy with academic requirements, family responsibilities, and employment endeavors, and leave little time for what, at first glance, may be a less than profitable time commitment (i.e., does not result in a grade counting toward graduation). Therefore, it is the responsibility of the psychology department students and faculty to reveal the numerous advantages to active engagement in department activities and to provide incentives as necessary.

Mechanisms to Get Students Engaged in Clubs

There are several ways to get students interested in club membership and attendance: department

orientations; club officer visits to introductory level classes; a departmental picnic sponsored by the club; assigning membership on club committees; institutionalizing club time with a specific time during the day and/or by offering class credit for club participation.

Psychology Department orientations for new and returning students can set the tone for the rest of the academic year. Orientations have a substantial impact on student persistence (Davig & Spain, 2003-2004) and are more likely to increase satisfaction and accelerate adjustment to college life. Stuber-McEwen and Worley (2004) emphasize that this is especially important for transfer students who are often left out of new student orientations and not given the same time and attention as incoming freshmen.

Initiating early student involvement in program-related student organizations can sometimes be difficult. The best way to begin may be for the current members and psychology faculty to make the first contact. Aside from orientations, a particularly good starting place is a course designed as an introduction to psychology majors. During a visit to the introduction to majors' course in the first week of classes, Emporia State University (ESU) psychology club officers introduce themselves, present basic information about the organization, and invite students to attend the upcoming department-wide student organization-sponsored picnic. Similarly, officers can attend other psychology courses to make sure all psychology students receive the personal invitations. As a follow-up, faculty remind students about the picnic and upcoming club meetings when making class announcements and emphasize the benefits of becoming a member, such as getting to know peers and professors better. The department-wide student organization-sponsored picnic provides new and returning psychology students with a family-type environment where club officers, faculty, and the chair of the department have additional opportunities to make known the benefits of membership and active participation in the student organizations. Picnic attendance can increase by having current club members send out postcard invitations even prior to the beginning of the semester, and while socializing at the picnic, current club members can individually invite new students to the clubs' first meetings. Strong attendance by the current club members and the psychology faculty models the very engaging behavior desired in their majors and can send powerful but subtle messages to newcomers about the cohesiveness and relations of the department.

In addition to the start-of-the-year events and in-class announcements, the Psi Chi/Psych Club members at Friends University choose new and returning students to chair and serve on the various committees throughout the year. Assigning committees early gives students ownership in the planning process, involves a greater number of students, and helps to keep the officers on top of organizing academic, community service, and fund-raising activities. This is especially important for new students who are more likely to feel disengaged. Students who feel connected are a) less likely to withdraw from the institution, b) more likely to develop a sense of belongingness and comfort with the institution (Kuh, 2000), c) more likely to perform better academically (Roberts & Styron, 2009), and d) less likely to engage in deceptive behaviors such as cheating (George & Carlson, as cited in Stuber-McEwen, Wiseley, & Hogatt, 2009). In essence, student involvement is the catalyst for retention, satisfaction, and success.

To further encourage ESU students to engage in Psychology Club, Psi Chi, and other department student organizations, the psychology faculty members schedule no classes from 11:00 am to 12:20 pm on Tuesdays and Thursdays. Department clubs, particularly those with undergraduate members are encouraged to use this time for Professional Development Sessions (PDS) such as club meetings, fundraisers, community service projects, and invited speakers, which ensures that undergraduate psychology majors are more likely to be able to attend. Having regularly scheduled club meetings in the PDS calendar at the beginning of the semester allows students to build the meetings into their daily planners. The PDS time slot is convenient because most majors have a class either before or after the meetings in the same department and are not likely to be at their jobs until after their last classes of the day. The department keeps a current PDS calendar on the department web site http://www.emporia.edu/parm/pdscalendar.htm, and at least one week prior to each PDS the students post flyers in the department. Additionally, when making announcements in classes, department faculty remind students of the PDS events and either offer course credit or extra credit for some PDS attendance, further emphasizing the importance of participation in the clubs, and reinforcing engaging behavior. Once students have attended the required 4 sessions per semester needed for credit, many continue attending the PDS and begin participating in club activities held at times other than the 11:00-12:20 Tuesday/Thursday sessions.

Benefits of Psychology Club

Making students aware of the benefits of active involvement in psychology club and Psi Chi is necessary to keep them engaged in the organizations and department. Obvious benefits for the student members include leadership experience as club officers and committee chairs, volunteer opportunities that may not be apparent or available to individuals, financial assistance for conference attendance from club funds, interaction with peers with a common interest in psychology, and interaction with faculty, particularly the faculty sponsors, in a less formal environment. Less obvious to new psychology majors are the long-term benefits of information often not taught in classes such as development of one's vita or resume, the social networking that can provide academic and emotional support during the collegiate experience, and faculty and peer networking that can lead to better letters of recommendation and unforeseen job opportunities. Faculty benefit by being able to identify potentially strong candidates for graduate programs, and departments benefit because of the cohesive, collaborative, and supportive environment these clubs promote.

Club Meetings and Activities

To encourage student engagement, psychology club and Psi Chi organizations need to plan activities that motivate members to attend regularly. This requires good planning by good club officers. What makes a psychology club officer "good" can be different in every club, as each exists in a specific campus environment. Some simple things to look for when selecting club officers are: regular classroom attendance, good general discussion/communication skills, positive interactions with peers in and out of class, and demonstrated organizational skills. Once a student has been identified as club leadership material, a scheduled meeting with the faculty advisor(s) can provide a private setting so that the offer of a leadership position can be tendered and the duties explained without the added pressure of a peer audience. When approaching a potential officer, it is helpful to mention the benefits of acting in a student leadership role: experience in decision making for a group, problem solving, volunteer management, and event planning; the "prestige factor" among peers; and the valuable bullet on the vita.

Once selected and the leadership offer accepted, officers should meet at least once before each regularly scheduled club meeting to develop the meeting agenda and do the background work for agenda items. For Psychology Club, the officers should provide a list of possibilities and then let the members make the decision by vote. For example, if officers or members have already generated several ideas for community service projects, then officers should contact local schools, charitable organizations, nursing homes, etc. and check on possible dates, times, places, and details of the projects prior to the meeting in which members vote. Having this information on hand at the meeting will allow students to immediately determine which project is going to be most feasible for them. Next, the organization must cut back the list to a reasonable number of projects, each of which the majority of officers can participate in and are in favor of doing. Too many options during the actual vote can lessen the interest in any one option. Voting works well when members are instructed to "only vote for those options that you can and will participate in," and allowed to vote for all projects with which they can help. This way the project that gets the most votes is likely to be the most successful project. This approach to determining club activities also works well for planning fundraisers and guest speakers. According to Reeve (2005) there is a plethora of research indicating people will be more motivated, and engaged in the process, when they have made the choice.

Astin (1993) emphasized that "the student's peer group is the single most potent source of influence on growth and development during the undergraduate years" (p. 398). For psychology majors, involvement in Psi Chi and Psychology Club may be the most influential, and possibly the only peer interaction students get aside from their in-class experiences; the activities of the individual psychology clubs and Psi Chi chapters are second only to the basic availability of the organizations. As faculty-to-student and student-to-student interactions are listed as high priority by both students and institutions, activities that provide a good mix of these are key in encouraging full student engagement. Such activities might include a club or honor society hosting a "Career Night" that includes an experienced alumni panel as well as career perspectives from instructors, group participation in community service projects such as Habitat for Humanity, Meals on Wheels, Big Brothers/Big Sisters, sponsorship of guest lecturers on topics of special interest, symposia on application for graduate school, and encouragement of collaborative research endeavors outside of coursework. According to Satterfield and Abramson (1998), primary social functions such as picnics or barbeques, an organizational "Night Out," and group cultural experiences involving appreciation of the arts may serve to increase group cohesiveness and

provide opportunities for more informal interactions between group members and faculty.

While many schools choose to combine the activities of a campus psychology club and the local chapter of Psi Chi, it is important that faculty advisors know and appreciate the differences between these organizations. Psychology clubs are local organizations that allow underclassmen and students who do not meet the membership eligibility requirements of Psi Chi (GPA and/or major) to participate in psychology-oriented activities. Comprised of approximately the top 35% of psychology majors, Psi Chi is an international honor society that seeks to foster an environment that encourages "building leadership, nurturing student professional development,…sustaining the department's community, developing productive citizens, and producing loyal alumni" (Weaver, 2008). Aside from the stringent GPA standard and the psychology major required for membership, Psi Chi differs from traditional campus psychology clubs in that its chapters report to an international leadership office, and are expected to participate in scholarly activities such as student research and community service projects.

As the recipient of the 2008 Ruth Hubbard Cousins Chapter Award, the Friends University Chapter of Psi Chi showcased "group cohesion through acts of service to others and carefully nurtured ties to other campus organizations" (Thielen, 2008). The Friends Psi Chi Chapter sponsors numerous activities throughout the academic year, which include: sponsoring holiday coat and food drives, participating in Psi Chi's Adopt-a-Shelter National Service Project, hosting the PsiQ academic quiz bowls competing against neighboring universities, co-sponsoring the annual *Psych Fair*, sponsoring guest lecturers, involving its members in campus-wide events, encouraging members to attend and/or present at regional psychology conferences, and holding an officers' transition meeting and lunch at the end of each academic year to foster smooth transition of leadership from year to year. These activities, whose participants included both members and faculty advisors, all serve to increase student-to-student and faculty-to-student interactions outside the classroom, thereby heightening the potential for full engagement of the students involved.

As the recipient of the 2005 Ruth Hubbard Cousins Chapter Award, the Emporia State University Chapter models its activities on its "Pyramid of Success" (Jobe & Soyez, 2005; Weaver, 2008). Leadership development engages officers in writing their leadership philosophies. Membership commitment and dedication entails a system of points

to reward students for chapter engagement with financial support to national conventions. Effective programming involves preparing agendas for business meetings and having invited speakers. The most effective speakers explain how psychology is used in their jobs and include local psychologists and counselors, law enforcement officers, human resources directors, executives for non-profit organization, salespersons, and lawyers. Chapter traditions include the Adopt-A-Highway service project each semester, the spring community service project of refurbishing local houses, and annual fundraisers such as selling Halloween bags for students each fall and gifts for Administrative Professionals Day each spring. The top level of the pyramid is student professional development. All activities of the chapter are designed to engage students in activities that advance the 10 goals for undergraduate psychology majors articulated in the *Guidelines for the Psychology Major* (American Psychological Association, 2007).

Online Clubs

Campus organizations that serve to engage students face a major challenge to reach out to the growing population of online students. Although online students enjoy the flexibility the virtual learning environment provides, it is a misconception that these students do not need as much social interaction as traditional students simply because of their choice to take online classes (Mynar, as cited in Online Student Clubs…, 2010). Some institutions have recognized this gap and have begun supporting online student organizations. Online clubs and organizations counteract students' feelings of isolation, can operate asynchronously as with regular online classes, can cover topics that support or supplement coursework, and can provide additional resources for career information, internship opportunities, etc. that students seek in between regular meetings and classes. Realizing this need, Park University has formed the Online Psychology Club to better serve its growing online student population (Mandernach & Mason, in press). Its purpose is similar to traditional clubs and organizations; only the venue has changed. The Online Psychology Club serves to increase awareness of the diverse and growing opportunities in the field, create a forum for learning about psychology through field experience, and facilitates involvement in psychological issues, such as relevant community service projects, leadership roles in the organization, and participation in professional enhancement activities. At Friends University, students from all psychology courses are enrolled in a special Psych

Club course shell. Like Park University, the Friends online organization is available through the institution's course management system and serves to engage and involve both online and traditional face-to-face students. This has proven to be an excellent venue to communicate with students between meetings and events, allow officers and members to interact through discussion boards, to maintain a calendar of events, and to post a variety of resources of interest to psychology students. In this type of system, all psychology majors, as well as interested Introductory students are "enrolled" into the course. Once students access the shell, they can check out the calendar of events, download the department newsletter, download photos from current and past school years, participate in the officer or member discussion boards, and receive announcements and reminders via email from the faculty advisors.

Conclusions

Both online and traditional face-to-face psychology organizations fulfill the need for a bridge over the gap between academic and social life on campus. Although they may differ in structure, function, and operation, they all serve the purpose of enhancing overall student engagement on college campuses. The inherent structure of Psi Chi chapters is especially suited for the challenges of student engagement. Educational relationships created and/or fostered outside of the traditional classroom are quickly emerging as important facets in the process of student engagement. Students increasingly report their need for more personal and less formal contact with their instructors and peers. Participation in organizations not only strengthens the personal ties a student has with his or her college experience but also offers unique opportunities to enhance leadership skills, to expand individual perspectives, and to prepare the student for further education or career placement. The environment of well-run psychology organizations provides these aspects necessary to cultivate student engagement and may also serve to propel students to the next level.

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Psi Beta as an Avenue of Engagement

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Student engagement has become a popular phrase in recent years, as educators at all levels attempt to develop effective means of capturing student attention and eliciting student involvement in both courses and campus activities. Typically, there is a structural and cultural divide on campuses between academic affairs and student activities, with the role of student affairs being undervalued, and this is reflected in the literature. Psi Beta, the national honor society in psychology for two year colleges, is in a unique position to promote student involvement and engagement by bridging the gap between these two seemingly disparate sides of the community college house.

Primarily, the emphasis in studies has been on the role faculty characteristics or pedagogical tools play in retaining and engaging students (Astin, 1984; 1993; Bryson & Hand, 2007). For students, however, time spent in class is only a portion of their day. Extracurricular activities are key in attracting and retaining students, though faculty may be loathe to recognize it. Activities outside the traditional classroom can provide developmental opportunities for students that promote the life-long community engagement that many institutions view as central to a good college education (Eyler & Giles, 1999). This is particularly important for community college and transfer students, who traditionally demonstrate lower levels of involvement with faculty and campuses as a whole (NSSE, 2009). The structure of Psi Beta Honor Society lends itself to just such growth.

History of Psi Beta National Honor Society

Psi Beta is the sister honor society of Psi Chi (the National Honor Society in Psychology). Former director of Psi Chi, Ruth Cousins, was said to have transformed Psi Chi to a vibrant organization through her leadership (Rudmann, 2010). In 1981, Ruth co-founded, with her daughter Carol Tracy, Psi Beta National Honor Society to provide worthy two-year college students the same opportunities provided by Psi Chi for four-year undergraduates. Psi Beta had eleven charter chapters by November 5, 1981, and in that same year, the Psi Beta Newsletter was instituted

and continues an online bi-annual publication. The American Psychological Association approved Psi Beta's affiliation in August of 1988. Membership in the Association of College Honor Societies as the first two-year college honor society member followed just six years later (Rudmann, 2010). Over 16,000 Psi Beta members had been inducted with 155 approved charters from around the county by August 2000.

The mission of Psi Beta National Honor Society is to "promote professional development of psychology students in two-year colleges through promotion and recognition of excellence in scholarship, leadership, research, and community service" (Psi Beta National Council, 1996, para. 1). The mission statement itself expresses the avenues of student engagement, always a part of a positive college experience, but particularly critical today. Psi Beta has consistently remained true to this vision of developing leaders in and advocates for psychological research and service.

Student leadership and teamwork

By virtue of being a student organization, Psi Beta encourages students to enhance their leadership skills and abilities to function as part of a team. These are skills that are immediately applicable to both occupational success and community advocacy. Engaged faculty often attempt to create these conditions with innovative classroom practices, but participation in a student organization can provide a direct framework for such proficiencies. Students are challenged to work together to organize meetings and an annual calendar, complete required institutional paperwork and meet deadlines, as well as formulating and executing fundraising events, all of which require abilities somewhat distinct from those that mark classroom excellence.

Community college students comprise a diverse population; however, there are two discrete and common categories: traditional first-time, and non-traditional or returning students. With increasingly regimented organization in high school and over-involved parents, many traditional students arrive at college with no direct problem-solving skills or leadership abilities (Epstein, 2007; Strauss & Howe, 2003; Twenge, 2007). Being involved in an

organization like Psi Beta affords students with academic promise an avenue for acquiring those skills by allowing them to be responsible for leading an organization, but with the safety net of faculty sponsor guidance. For many non-traditional students, involvement can provide an outlet to enhance their existing skills developed in the workforce or as parents. Generally, because Psi Beta is ideally student-led, students who choose to participate can have more autonomy in the decision-making process than a traditional work environment.

Psychology Synergy Conference

A prime example of just such student engagement opportunity can be seen in conference organization and participation. For the past five years, Psi Beta has assisted in sponsoring the national Psychology Synergy Conference, a collaborative effort with Psi Chi. The conference was developed to afford psychology enthusiasts from high schools, community colleges, and colleges/universities the opportunity to build bridges through scholarship. The specific goals include increasing awareness of Psi Beta National Honor Society to college partners and also the community, offering leadership and professional development opportunities for faculty and students in psychology, providing a seamless pipeline for Psi Beta students entering into Psi Chi at 4-year colleges, creating a mentoring experience for high school students interested in psychology and eligible to join Psi Beta National Honor Society, and collaborating with partner colleges in workshops, panel presentations, roundtable discussions and brainstorming sessions.

This national conference invites students from a local chapter to organize and implement the event under the direction of their faculty sponsor(s). Thus far, the conference has been hosted by Collin College twice (founding College), Carroll Community College, State College of Florida-Manatee, and Community College of Denver. Students at these campuses had direct experience with arranging speakers and organizing and moderating symposia, after-hours events, catering, and more. For students not involved in hosting, the national Psychology Synergy Conference still presents chances to network at a professional level. Millennial students have readily adapted to the concept of online social networking, but they often lack awareness of the extension of this as it exists in professional life (Hosein, Ramanau & Jones, 2010) Conference participation, often sponsored by local chapters, allows students to meet their peers from other regions of the country as well as top scholars in the field, such as David Buss, Helen Fisher, Stephen Davis, Janell Carroll, and Sonja Lyubomirsky, all of whom have served as keynote speakers for the conference.

Research

As a rule, community colleges have not engendered a campus culture amenable to research, but psychology has been a notable exception in recent years due in no small part to the efforts of Psi Beta. Indeed, Psi Beta overtly claims as a membership benefit the opportunity for students to become involved in the research process through participation in "national, regional, and local psychological association programs, including paper and poster presentations at professional conferences," (Benefits of Membership, 2010, para. 1). This promotes a number of benefits, from learning to respect diverse theoretical perspectives, to having access to faculty mentoring outside the traditional classroom setting. There are both local and national initiatives designed to capitalize on the role of research in student development. The Collin College chapter in Texas has organized research groups for students since 2000, participation in which has yielded numerous student presentations and publications. Because the Collin Psi Beta chapter provides instruction, support, and partnership opportunities seldom afforded to community college students, research students gain through their experiences the tools necessary to compete academically upon transfer.

The national office of Psi Beta has also become involved in a number of research initiatives, inviting students from chapters across the country to participate in data collection and dissemination of results. In 2010, the research focus centers on the relationship between subjective well-being and gratitude and that of one's best friend. The national office offers considerable structure and support for students at the early undergraduate level, so that they are able to develop a foundation in research skills that will be needed as they transition to four-year and graduate level environments. The Psi Beta National Research Project (Psi Beta, 2010) provides students and faculty sponsors with study abstracts, research instruments, scripts, and data collection formats that scaffold the complete process.

In addition to the National Research Project, Psi Beta has also partnered with Pearson Education to promote and encourage student research. Students who author an original piece of research and write up their findings in APA style can submit their papers for the Pearson/Psi Beta Research Paper Awards. Winning students receive cash awards and are recognized with certificates at the APA National

Conference each year (Psi Beta's National Awards, 2010).

Professional Networking

Another way of engaging students is by underscoring for them the relevance of professional networking. "Psi Beta offers the opportunity to participate in national, regional, and local psychological association programs, including paper and poster presentations at professional conferences," (Benefits of Membership, 2010, para 1). Conferences provide an avenue to learn of new and exciting research in the field of psychology and afford occasions to expand social networks with other students and professionals in the field. In addition, meeting with faculty and graduate students from other campuses provides a view of their institutions as potential schools for further study.

Community Service

Psi Beta remains true to its original mission statement in the organization's commitment to community service. Ideally, the college experience is not solely a matter of academic acquisition of material; it is also about practical application of knowledge in the service of one's community. Psi Beta recognizes this and encourages civic engagement and service.

One of the ways Psi Beta encourages service is via the Carol Tracy Community Service Award**.** This cash award is given yearly to two outstanding community service projects–one student and one chapter. Again, recipients are recognized at the APA National Conference (Psi Beta's National Awards, 2010). In addition, part of the evaluations for outstanding chapter and for outstanding faculty advisors is an evaluation of service projects by competing chapters. While the award guidelines consider membership size and additions, and other factors, community service remains a primary consideration.

Beyond the benefits of being recognized, all Psi Beta members who participate in service projects learn more about the relationship between education and engaged citizenship. Often, just as is the case with the critical-thinking skills learned by running an organization, participation in community service often requires students to demonstrate initiative and active involvement. The goal of engagement is often met by simple virtue of the service experience. It is possible, but somewhat improbable, to be disengaged from the hands-on association.

Conclusion

The goal of nearly all educators is to assist in the development of engaged, life-long citizen-learners. Psi Beta represents an excellent conduit for providing the types of opportunities that elicit student engagement. Consonant with its mission statement, Psi Beta encourages active involvement of its members in the areas of leadership, scholarship, research, and service, and as such, is an ideal organization for the two-year campus that wishes to produce citizen scholars.

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Preparing to Serve: A Program Training College Students for Tutoring and Mentoring in Public Schools

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Weber State University

This chapter describes a collaborative effort to create a training program for college students engaged in mentoring and tutoring. The training program focuses on college students who are mentoring and tutoring "traditionally non-college bound" K-12 students, defined as first-generation, multicultural, or low-income. The narrow goal of the program was to better prepare college students as tutors and mentors who could effectively promote college participation among traditionally non-college bound students. The broader goal was to promote student engagement by offering a free, portable, and standardized training of students at any institution involved in community service, which researchers and administrators alike may find helpful.

Introduction and Background: University Goals that Set the Stage

The training program was created a by a team composed of a broad collection of university personnel, including a University Vice President, AmeriCorps VISTA volunteer, faculty members, and university staff, for mentors and tutors. Most of the collaborators served as members of a university College Participation Committee whose mission is to promote greater university participation by traditionally non-college bound students. The President's Council at Weber State University established this committee in 2007 as part of a comprehensive enrollment management plan, which also included other committees such as Recruitment, Retention, and Marketing. One goal of this initiative was to address the declining college participation rates among 18- to 24-year-olds state-wide (Perlich, 2006; also see Lee and Rawls, 2010, for evidence of a national decrease in college participation rate).

The College Participation Committee's goal was to increase college enrollment of students from local high schools whose college participation rates were notably low. As the committee was deliberating on means to reach its goal, the university created the Community Involvement Center whose mission was to promote and manage forms of student activities in the community. Since the director of the Community Involvement Center also served on the College Participation Committee, there was a natural cross-germination of ideas. It did not take long for the College Participation Committee to arrive at a "Trojan Horse" solution to the college participation problem: Our college students who otherwise serve as tutors and mentors in public schools could be trained to carry a personal message of the importance of college participation to precisely the students we hoped would hear it. As *tutors*, the college students would have access to students the university wanted to target and provide them with short-term, course-related support for the long term goal of college participation. As *mentors*, the college students could form personal relationships with the targeted students. This approach was intended to encourage students to adopt beliefs and values that promote the long-term goal of college participation.

Many colleges and universities have focused some efforts to collaborate and strengthen relationships with the surrounding community members, particularly K-12 students (Krebs, 2006). Generally, a program like the one proposed is consistent with the broader traditions of the university mission (Boyer, 1994) and the varied forms of collaborations encouraged between universities and public schools (Bok, 1982).

Mentoring and Tutoring as Service-Learning

For college students, mentoring and tutoring K-12 students is service-learning, defined as an activity

which links academic learning to service that meets authentic community needs (Billig, 2002; Furco, 1996; Weigert, 1998). It is a form of experiential learning which can be located in the middle of a continuum stretching from academically-related internship on one side to socially-related volunteerism on the other (Furco, 1996). Service-learning activities like tutoring and mentoring have become a course component in many different classes in the college curriculum, including social science, education, medical, and humanities courses (Burrows, Chauvin, Lazarus, & Chehardy, 1999; Herschinger-Blank, Simons, & Kenyon, 2009; Jacoby, 1999; Quezada & Christopherson, 2005). College students engaged in various tutoring and mentoring service-learning projects with younger students demonstrate improved academic achievement and enhanced social interactions with peers (Fresko & Wertheim, 2006; Malone, Jones & Stallings, 2002; Mickey, 2001; Scales, Roehlkepartain, Neal, Kielsmeier, & Benson, 2006; Schmidt et al., 2004). These findings are echoed in the conclusions of national assessments of college student outcomes associated with tutoring and mentoring underprivileged K-12 students (Austin & Saxe, 1998; Reisner, et al., 1989; Taylor & Street, 2007).

Benefits to At-Risk Students Mentored through Service-Learning Programs

There is evidence of a positive effect on K-12 students of tutoring and mentoring programs staffed by college students. In a series of studies from the 1980s, Eisenberg, Fresko, and Carmeli (1981, 1983) assessed outcomes of the Perach program in Israel, which matched up volunteer college students as tutors with disadvantaged children from grades 5-8. Tutoring sessions were held twice a week for two hours each over a period of 7 months. No academic differences were demonstrated in tests of tutored students who completed, dropped out, or were not enrolled in the program when the results were carefully controlled for initial academic abilities. Despite limited effect in short-term performance improvements in core academic subjects of K-12 students (also see Jones, Stallings, & Malone, 2004; Rhodes, 2008; Wasik 1998; Wasik & Slavin, 1993), the tutored students demonstrated greater school satisfaction and participation, and were reading outside of class more often than their non-tutored peers. In a two-year follow-up on tutored and untutored students, other differences emerged; tutored children demonstrated greater academic

aspiration and competence in core classes than non-tutored children. Subsequent work has supported findings of the general effectiveness of college tutors on K-12 students' academic preparation, achievement, and aspiration (Allen & Chavkin, 2004; Fitzgerald, 2001; Harwood & Radoff; 2009; Reisner, Petry, & Armitage, 1989; Ritter, Barnett, Denny, & Albin, 2009; Schmidt, Marks, & Derrico, 2004).

The Need for Mentor/Tutor Training Programs

Reviewing the literatures described above, the committee explicitly looked for programs to effectively train the college students in the roles of tutors and mentors for K-12 students. Descriptions of off-the-shelf training programs for service-learning students engaging in mentoring and tutoring underprivileged K-12 students were non-existent in the literature. Indeed, most reports in the literature did not mention any training at all or only alluded to forms of training but without providing sufficient detail to replicate the training. Although it is likely that the students serving as tutors in these studies were trained, a systematic presentation of the details of the training was not available in the write-up of these studies. The incomplete accounts of training that were available described different combinations of three forms of training: a pre-service training session (Allen & Chavkin, 2004; Fitzgerald, 2001; Malone, et al., 2002; Schmidt et al., 2004), in-service training classes (Allen & Chavkin, 2004; Dubois & Neville, 1997; Fitzgerald, 2001; Malone et al., 2002; Jones, Stallings, & Malone, 2004), and tutoring/mentoring feedback sessions (Jones et al., 2004). The type of training received by service-learning students involved in K-12 mentoring and tutoring appears to vary in length (from minimal to extensive), in timing (prior to or during service), in depth (more practical or more conceptual training), and in instructor (service-learning site employees vs. service-learning course instructors vs. university outreach staff).

The apparent lack of a proven standardized training for service-learning students poses a broader empirical problem for the field. It is difficult to compare findings of service-learning outcomes if students are trained inconsistently and perhaps inadequately. Variations in research outcomes may be due to nothing other than differences in how student tutors and mentors were trained rather than to any other variable. This problem could be alleviated by the creation of a standardized and effective program to train college students at any institution to perform as K-12 tutors and mentors.

Goals and Development of the Mentor/Tutor Training Program

The training program that was created accommodates a diverse sample of students who are instructed in the mission of the service learning project -- that of mentoring and tutoring traditionally non-college bound K-12 children in order to promote college participation. In addition to training service-learning students on the broad mission, opportunities are made available for additional training related to the instructional interests of the faculty and/or needs of a particular service-learning site. The mentor/tutor training program (described below) could serve as a standardized, effective, and portable program for the service-learning administrators and researchers alike.

Mentoring and Tutoring Training Modules

This section contains a description of the design and content of the training program, which was modeled after the protecting-human-subjects training required of all researchers to gain IRB approval. Like the protecting-human-subjects training, the service-learning training is available online to students of any institution. The training is a sequence of modules composed of PowerPoint presentations with linked video and other content. It is hosted on the web by the University's Community Involvement Center as a series of PDFs (http://www.weber.edu/communityinvolvement/Preparing_To_Serve.html).

Eight modules were created: Professionalism, Cultural Sensitivity, Ethics, Introduction to Mentoring and Tutoring, Tutoring, Mentoring, Precollege Knowledge, and FERPA (Family Educational Rights and Privacy Act). Each module was designed to stand alone, but they work together for complete training of college students for the service-learning project mission. These modules were selected on the basis of an informal review of information already being shared through various outreach efforts occurring at Weber State University as well as through input from site administrators.

Associated with each module is a quiz composed of multiple-choice questions which assesses key points of the module. An 80% correct performance on the quiz results in a module completion certificate which is printed by the student. The certificates for all selected modules can be given to students' instructors as evidence of completion.

There is sufficient accessibility and flexibility in the training program for faculty members or university administrators at any university to use the program to train service-learning students. Moreover, the costs of running the training, as well as the entire service-learning project, are minimal. The training program and software are managed by a VISTA volunteer in the Community Involvement Center at minimal cost to the university. The volunteer is a resource for faculty members to confirm students' participation in the training, for college students to answer questions, administer their placements, and manage their time on site, and for site administrators as the university point of contact.

Module 1: Professionalism (*click here*)

The training begins with a module on Professionalism. This module highlights the importance of students recognizing their responsibility to engage in professional behavior that respects the norms of the site and their university. The module addresses 5 such norms: Time Management, Appearance, Understanding Your Role, Expectations, and Behavior. Time management highlights arriving at the appointed times and engaging in professional (not personal) activities while on the job. Additional time-management tips are also presented. The focus on appearance addresses the importance of following school dress-code policy, managing body art (tattoos and piercings), and wearing a credential (badge) or uniform (if necessary) for easy identification by others. Role information emphasizes college students' responsibilities to focus on the interests of students and keep appropriate boundaries with them as well as to recognize their supervisors' responsibility. Finally, it is stressed that their behavior should always demonstrate respect.

Module 2: Cultural Sensitivity (*click here*)

The module on cultural sensitivity prepares students for service-learning projects that involve college students encountering diverse populations. It is imperative that university service-learning students are well-trained in general cultural competencies so that they interact appropriately with individuals from various cultures (Sperling, 2007). By providing students training in cultural understanding and sensitivity, a university not only furthers the enrichment of its students, but it increases the likelihood of creating a positive impression on those being served through the outreach efforts. The Cultural Sensitivity module digs deeply into the concept of culture, its relevance for education, significance for identity, and sources of misunderstandings in order to inform students of the importance of cultural awareness in their success as tutors and mentors. It further offers instruction on

how to develop sensitivity around issues of poverty, language, sexual orientation, and religion.

Module 3: Ethics (click here)

The module on ethics, though tied to professionalism, defines ethics as an internal set of values rather than outward behaviors tied to social norms and roles. The Ethics module addresses these internal standards of behavior by reminding students of the university code of conduct and the values on which they are based. Moreover, the module exposes students to the ethical values to which those in the helping professions must adhere, including social work, psychology, education, and medical practice. Service-learning students need to be familiar with, and commit to adhering to, the same set of ethics as educators. The National Education Association Code of Ethics (National Education Association, 1976) includes a commitment to students and to the profession. Highlighting these commitments, the module addresses students' responsibilities for safety and privacy of the students they mentor and tutor and the dangers of inappropriate sexual, financial, or emotional relationships between tutors/mentors and their students. The module also reminds students to consult with their supervisor regularly to avoid any ethical complications.

Module 4: Introduction to Mentoring and Tutoring (click here)

This introductory module addresses why service-learning college students should mentor and tutor underachieving and underprivileged K-12 students. As such, it is much more mission-related (i.e., mentoring and tutoring traditionally non-college bound K-12 students to promote college participation) than the other modules. The module begins with a statistical portrait of predictors and consequences of academic failure of K-12 students. The importance of mentoring and tutoring such students to prevent academic failure and promote college participation is then emphasized. The service-learning college student is presented as someone who can form a unique relationship with the K-12 student which is not only unlike any other relationship in the student's life but also fraught with potential difficulties. However, by recognizing and overcoming such difficulties, a tutor/mentor has the opportunity to forge an effective and productive relationship with a student. The module also introduces the scope of the relationship by defining tutoring (addressing students' weaknesses in a particular academic area) and mentoring (offering a wide range of advice in the forms of values, beliefs, and attitudes about academically-related topics).

Although mission-related to the particular goals of the project, the module may also be valuable for any student to understand the broader nature and significance of their activity.

Module 5: Tutoring (click here)

Because tutoring is a major focus of college outreach efforts within K-12 school systems, to the tutoring module prepares tutors to understand what is expected from them academically in order for them to be effective. Although tutoring may not guarantee improved academic performance (as reviewed earlier), it may be related to other outcomes, including K-12 student beliefs and attitudes about school and the tutor-tutee relationship itself. The module focuses on the goal of tutoring as helping K-12 students to overcome academic challenges and become independent learners. To realize these goals, the module challenges the college students to think more deeply about the relationships they are creating with their students (and with their students' teachers). It emphasizes their role not as teachers who provide answers to problems but as detectives who observe their students' academic challenges so they can diagnose and remediate the forms of academic problems their students are having. The tutoring module also offers students practical tutoring tips, including the value of modeling problem-solving strategies and suggestions for resolving problems that may emerge with the students, their parents, or teachers.

Module 6: Mentoring (click here)

The mentoring module focuses students on relationship quality. To be effective, the mentoring role must be based on qualities of the relationship forged between the mentor and mentee. The college student tutor needs to be seen as an example and a guide to be followed in the eyes for the tutee. As Bellamy, Sale, Wang, Springer, & Rath (2006, p. 58) put it, "The underlying theoretical assumption in these interventions is that the trust and support achieved in a positive relationship with an adult will have an influence that promotes positive social-emotional development and creates protection against negative behaviors." The module first reminds students of attitudes, which promoted their aspirations to higher education and then emphasizes the importance of forming a relationship that would transmit those attitudes to their students. Such a relationship needs to be based on open, honest, respectful, two-way communications. Each of these aspects is individually reviewed. Various tools for instructing and mentoring are discussed, including

modeling, coaching, articulating, exploring, reflecting, advice-giving, and self-disclosure.

Module 7: Precollege Knowledge (*click here*)

The precollege knowledge module, like tutoring and mentoring, addresses relevant information about college that service-learning students ought to explain to college-bound K-12 students. In the module, service-learning students are encouraged to talk affirmatively about their students' college participation (e.g., "when you go to college…") but not to talk about attending any particular college. Additionally details of precollege programs, which prepare students to attend college, are presented including GEAR UP, Educational Talent Search (ETS), Upward Bound and other TRiO[1] programs. Such college preparation programs have been shown to increase the percentage of underrepresented students who attend college (Perna, 2002). Service-learning students are instructed to explain the nature and availability of such resources to students at particularly receptive times. Details of state initiatives to fund, support, and promote college participation are also presented to arm the service-learning student with critical and timely information to inform K-12 students of college participation resources. Also, information about university admissions criteria, financial aid options, and scholarship opportunities are presented so that the service-learning student can speak credibly to their students on these important matters.

Module 8. FERPA (*click here*)

The module on the Federal Educational Rights to Privacy Act (FERPA) (20 U.S.C. § 1232g; 34 CFR Part 99) makes clear the legal requirement of protecting students' information. Earlier modules on Professionalism and Ethics stressed the importance of keeping all confidential information private, a topic that is expanded in this module. FERPA is designed to protect the individual privacy of students within an educational setting. The module highlights that anyone who interacts with an individual within an educational institutional setting must actively protect information which may compromise that individual's right to learn in a peaceable and private manner. The module presents an overview of FERPA, points out its various provisions, notes conditions when exceptions to FERPA are permitted, and discusses

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[1] TRiO refers to the federally funded programs of Talent Search, Upward Bound and Student Support Services.

various amendments, legal clarifications, and state extensions to the law.

Prospects of the Program

The training program is now being used regularly on the Weber State campus. During the Fall 2010 semester an average of 178 students successfully completed each module (scoring at least 80% on each associated module quiz). This reflects a 59% increase over the previous semester. At a minimum, the training provides a service for faculty members and site supervisors alike who can be sure that service-learning students have the requisite understanding of their roles and responsibilities. One of the authors (Sheldon Cheshire) tested the effectiveness of the training program as part of his M.Ed. thesis. To examine the effectiveness of the training modules, he used a qualitative interview design in which student participants were interviewed about the effects that online tutor training had on their tutoring and mentoring abilities. He is also interviewing stakeholders (faculty and site administrators) to assess whether they had noticed differences in the mentoring and tutoring provided by students who had received online tutor training versus students who had not been so trained. The results were quite positive, suggesting that students and stakeholders readily recognize the value of the training.

Further work is also ongoing through the Division of Student Affairs, which is examining the university enrollments of K-12 students from schools with low college participation -- schools which were targeted by the College Participation Committee. Rates of college participation from these schools appear to be on the rise coincidental with the initiation of the training of service-learning students placed in those schools. Of course other events, like targeted intervention programs and changes in the broader economy, may also contribute to student college participation, and longer timeframes are needed to confirm results from this time series analysis.

Members of the College Participation Committee and the Community Involvement Center are committed to further assessing the impact and value of the training program on service-learning and K-12 students alike. The authors note the importance for researchers and administrators of standardized and empirically effective training program to prepare college students for service-learning, particularly in the areas of mentoring and tutoring. To anyone interested, this training program is offered for free to other institutions and invites others to use, test, and provide feedback on the program.

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Community Service Engagement: How our students benefit from this service and how to encourage them to pursue community service

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There are many ways that educators can encourage students to engage in community service. I will discuss several ways in this chapter. However, the first question to address is, "Why should we encourage students to engage in community service?" There are several reasons for this. First, and most important, the act of helping others should be valued and promoted. Thus, we should want our students to help their communities and those that are less fortunate than they. Second, many disciplines in the social sciences (e.g., psychology) are centered on service. Furthermore, many of our students will be working in service-oriented positions as counselors, social workers, school psychologists, health professionals, etc. Many of these positions will require our current students to interact with diverse populations of clients and/or patients in their future. Participating in community service during their undergraduate years is a clear way to help our students see the vital role that service plays in our discipline and to allow them to interact with a wide array of individuals from our communities.

There are additional reasons that we should encourage our students to pursue community service. For example, an increasing number of colleges and universities are making community service a key aspect of their general liberal arts curriculum. Furthermore, many of our colleges and universities are religiously affiliated and have the dedication to the service of others as one of their core missions. For example, at Creighton University, a Jesuit Catholic University, our primary core value is service to others, and to shape our students into women and men for and with others. Thus, as educators in these institutions, we are compelled to serve others and to create this environment of service among our students.

A final reason that we should encourage our students to participate in community service is that several recent studies have indicated that students, from any age range, involved in service, are more likely to be successful than are students not engaged in community service (Ting, 2000; Ting & Robinson, 1998; also see Furco & Root, 2010 for a recent review). This success takes many forms ranging from higher grade point averages, to higher graduation rates, to better emotional health. In fact, Kahne and Sporte (2008) even found that students involved in community service were more likely to develop a commitment to civic engagement than were students not participating in community service. Furthermore, Johnson, Beebe, Mortimer, and Snyder (1998) found that adolescents who engage in community service activities not only enjoyed higher grade point averages and higher educational aspirations, but also had higher self-esteem as compared to those adolescents that did not participate in community service. Johnson and colleagues also argue that this involvement in community service enhances the college experience. That is, Johnson et al. (1998) found a relationship between students' level of engagement in community service and their self-reported feelings of academic motivation. Johnson and colleagues argue that these community activities may help these students see themselves as having greater professional and academic potential than they saw in themselves before participating in community service.

Based on Johnson and colleagues (1998), it seems clear that student volunteers may benefit from community service. I would argue that as long as everyone is whole-heartedly engaged in the community service, all parties involved enjoy its benefits. That is, as long as the community program welcomes the service, the service program is designed to serve the needs of the community, and the volunteers are adequately trained and engaged in the service, the community and students will benefit as will the educational institution supporting the service. Thus, the next question is, "As an educator, how can I encourage my students to engage in community service?" There are several ways that this

can be achieved. I will discuss five such routes. One route is by integrating a service-learning component into relevant courses in which the particular focus of service overlaps with course content. Another way to encourage community service is by including a general community service requirement of students for general courses. Third, we also can encourage service by collaborating with students on research with indirect community service consequences. Fourth, we can design curricula to include capstone courses or senior projects in which students must use their newly formed skills to benefit the community. Finally, we can encourage students to engage in community service by serving as models and engaging in community service ourselves.

Service-Learning

Designing courses with a service-learning component integrated within them is a common way in which educators can encourage students to become involved in community service. In fact, Cathey and Ross (this volume) are dedicating an entire chapter to the topic of service-learning courses. Thus, I will not focus on this method of encouraging community service except to describe it briefly. Most courses with a service-learning component require students to engage in typical class activities such as attending lectures, taking exams, writing papers, etc., but they also include a component in which students work with members of a community. The community with whom the students work is related to the course material in some way. For example, Whitbourne, Collins, and Skultety (2001) conducted a course on the psychology of aging and asked students to volunteer in local retirement communities, nursing homes, and community centers. The students were involved in a wide range of activities that involved extended interaction with older adults. This type of service-learning component can be beneficial for all parties involved. The older adults receive the benefit of interacting with caring younger adults, while the students benefit from connecting material covered in their classes to real-life interactions with older adults. One aspect of service-learning activities to keep in mind is that they can require a substantial investment in time and training for the students. For example, students interacting with older adults within nursing homes will need to go through the volunteer training program at each care center in which they work. In addition, the course instructor likely will have to make arrangements with someone at the service site to perform evaluations of the students assigned to the site. Although evaluating the students is a necessary component to an effective service-learning experience, it does place a burden on site supervisors.

Community Service Requirement

Another common way to encourage students to engage in community service is through an overall course or institution requirement for students to conduct community service in order to graduate. This method is particularly common in high schools in which students are required to complete a set number of hours of community service in order to graduate (Metz & Youniss, 2005). Typically, these community service hours can be completed at a range of different community sites and the service activities do not necessarily coincide with course material. Recent studies have indicated clear benefits for this type of mandatory service. For example, Metz and Youniss (2005) found that students who volunteered became more civically engaged through their volunteer efforts. Furthermore, Metz and Youniss (2005) found that even those students who initially indicated little interest in volunteering became very civic-minded and interested in having sustained involvement within their communities by the time they had completed their community service hours. For example, these initially less-interested students reported significant increases in their commitment levels for future voting, greater understanding of the political system, and dedication to civic involvement after completing their compulsory community service hours. Based on these findings, one could argue that the completion of community service, even compulsory community service, changes students' attitudes about their community and the degree to which they want to be involved in their communities.

Another interesting effect of requiring community service of students, either as a course requirement or graduation requirement, is that many students continue their engagement with community service organizations beyond their course and/or school requirements. It is very common for students to become emotionally connected to the communities that they serve while performing required service and for the students to want to maintain their connection with those communities. In fact, Metz and Youniss (2003) gauged students' attitudes about and intentions to continue community service before and after the completion of 40 hours of school-required community service. They found that student intentions to engage in community service greatly increased after completing the school-required community service hours. In fact, many of the students with whom Metz and Youniss worked continued their community service for many hours beyond their school's requirement. Henderson, Brown, Pancer, and Ellis-Hale (2007) came to a similar conclusion when they compared a cohort of first-year college students who were required to

complete community service while in high school to a cohort of students who were not required to engage in community service. Those who had completed mandatory community service in high school still reported more positive attitudes about community service and a continued intention to participate in community service into the future more than did those students who had not been required to complete community service in high school. These positive feelings toward community service simply may be due to the tendency for people to value the behaviors they have displayed previously more so than other behaviors (Albarracin & Wyer, 2000). Nevertheless, it is encouraging that Henderson et al. (2007) found their participants reporting these positive attitudes toward future community service activities.

Of course, we must be careful when applying the findings of Metz and Youniss (2003) and Henderson et al. (2007) to our university students. These previous studies were conducted with high school students; we can only speculate that undergraduates required to complete community service would enjoy similar benefits. Further, I must acknowledge that it would be easier to implement a community service requirement within a high school than within an undergraduate institution, due to typical differences in the number of students within a high school and a university, and to differences in where students may complete their service (e.g., within the university's community or within the students' hometown communities).

Although I have not conducted a formal investigation of this, I have found that mandatory service evolves into voluntary service among many of my students. In our course on Infant and Child Development, we require our students to work with infants, toddlers, and/or children within the Omaha community at designated field placement sites for at least 16 hours during the semester. These field placements take many forms such as being a teacher's aide in the on-campus child development center or at local Montessori preschools, or serving as a tutor in a local Camp Fire USA chapter. In most of our field placement sites, our students are treated in a very similar manner as are other volunteers. Nearly all of our students complete their field placement hours and a majority of students continue to volunteer at their field placement sites beyond the 16 required hours. In fact, many students continue to volunteer at these field placement sites, especially at the Camp Fire USA sites, for the rest of their college careers. Furthermore, when reviewing the narrative evaluations for this course more than half of the students report that the field placement experience was their favorite part of the course. Thus, requiring students to complete community service seems to be beneficial and enjoyable to many students. For many students it leaves them feeling encouraged to continue on with community service well after their required hours are completed.

Research with Indirect Community Services Consequences

A third way that faculty members can encourage student involvement in community service is by collaborating with students on research projects that take place within our communities. Surprisingly, it can be easy to design research projects that are not only of scientific interest to the researcher(s), but are also embedded within our communities. As an example of this, my students and I have completed several projects in conjunction with educators within our communities. Several times we have implemented projects examining the relative benefits of different types of reading instruction strategies. In these projects, my student collaborators and I interact with the child participants in much the same way as we would if we were tutoring the children on reading techniques. Although the aim of these projects is for my student collaborators and I to collect data that will have implications for theoretical models of reading behavior, the student participants do receive some indirect benefits. For example, the young participants have experienced increases in their pronunciation skills and in their vocabularies (e.g., Khanna, Cortese, & Birchwood, 2010). Moreover, the young participants often have enjoyed interacting with my student collaborators well after the end of the research project. That is, several of my undergraduate student collaborators have continued working with the elementary students by shifting their work from the research project to tutoring the same and additional students via after-school tutoring programs run by the schools, or outside programs such as Camp Fire USA. Again, there appears to be a natural inclination for our students to engage in community service; they just need the encouragement and opportunity to do so.

Community–Based Research Capstone

A fourth way that we can encourage students to engage in community service is by designing capstone courses or senior projects that include a community-based learning component. As an example of this, professors at Sterling College in Kansas have asked their students, as part of their capstone requirement, to utilize some of the skills acquired in their psychology courses to conduct community-based learning projects (Froese, Vogts-

Scribner, Ealey, & Fairchild, 2003). Specifically, students have worked in conjunction with local schools and non-profit organizations on the design and implementation of survey studies. These studies were designed in order to address questions of interest to the non-profit groups. The students provided their experience in research methods and data analyses to help the organizations transform their questions about their programs into actionable questions for which survey studies could be conducted. For example, in one project, a school district wanted to know why local voters had opposed a bond proposal that would have benefitted the school district. The student researchers worked with administrators of the school district to develop a survey instrument that would gauge voters' concerns. The students helped to select the appropriate sample, carry out data collection and analyses, and design a report for the school district to communicate their findings. Clearly, the non-profit organizations within their community benefitted from the research services provided by these students. In addition, and most importantly, the students were able to use the skills acquired via their coursework to help their community. In fact, Froese and his colleagues found that their students reported that these experiences helped them learn that their psychology research skills could be used to help their community in a valuable way. What a wonderful way to encourage students to engage in community service, while also helping students realize the value of their training.

Modeling

A final way that we can encourage our students to engage in community service is by being involved in community service ourselves. We all know the influence of a model on another's behavior (e.g., Bandura, 1977). If our students see that we value community service enough to participate in it ourselves, they may decide that community service is an endeavor they would like to pursue as well. Most of our colleges and universities make our efforts to find community service quite easy by having countless student and/or faculty lead community service activities. For example, Creighton University sponsors an event each spring entitled Project Homeless Connect Omaha. During this event, homeless individuals and families from the Omaha area are welcomed onto campus where community volunteers have brought together dozens of community resource representatives (e.g., low-income housing representatives, local workforce development officers, legal advisors, healthcare providers, etc). These community service representatives, along with Creighton University medical and dental students and faculty, provide services and advice to the community members who come to campus for the project. Our faculty and students are invited to volunteer at this yearly event. When faculty and staff volunteer at these events, students get the message that service to the broader community is an important value for our University community.

There are many reasons why we should encourage our students to engage in community service. As much as community service clearly benefits the community, it also benefits the individuals providing the service in the form of increasing their academic outcomes, self-esteem, and civic-mindedness. Also, we must be honest with ourselves in acknowledging that we, and our students, are very fortunate. We all have had the opportunity to obtain a higher education. This is an opportunity that is not afforded every person, not even in the United States. We have a civic and moral duty to share our educational riches with others in our community. It is a win-win for the university, its faculty, students, and our greater community. Furthermore, we can promote this engagement in community service with our students in a myriad of ways that are fully integrated with our regular teaching, research, and service activities.

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Undergraduate Internships for Psychology Majors

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Emporia State University

Undergraduate Internships for Psychology Majors

The undergraduate psychology internship program at Emporia State University has existed for about five years and I have been the director of that program for the last two and half years. In developing the program, a number of questions needed to be addressed. For readers whose psychology departments are considering an undergraduate internship program, perhaps describing how our department arrived at answers to those questions might serve as a template for building a program that best meets the needs of each reader's department. And perhaps readers whose psychology departments already have an undergraduate internship program will uncover an issue or two they may have overlooked as they read about our journey. In keeping with our department's process of inquiry, this chapter was written in the form of a set of questions. The first question we explored was whether we wanted to add an experiential learning component to our undergraduate psychology curriculum.

Should Experiential Learning Be a Part of Our Undergraduate Curriculum?

The idea that students can gain new knowledge and acquire useful skills in an applied setting outside of the classroom under the watchful eye of an expert is not a new idea. For example, in engineering education the practice of cooperative education, in which a student alternates taking classes and working a job within his or her field, was introduced to the University of Cincinnati in 1905 by Herman Schneider and other schools soon followed suit (Smollins, 1999). In the field of management education, the idea of action learning emerged in the 1970s in opposition to traditional classroom business education. Some of the main principles of action learning are that individuals learn best when (a) they are asked to act on real tasks or problems at work, (b) they reflect on why their actions were effective or ineffective, and (c) facilitators are available to help

the learners (Pedler, Burgoyne, & Brook, 2005). Regardless of the form experiential education takes, universities and outside organizations have worked together in America to provide students with real world experience for over 100 years.

Today, graduate training of psychologists is strongly influenced by the Boulder Model of the scientist-practitioner and some form of experiential learning is usually required. Vocational preparation is a major part of the mission of graduate training, however at the undergraduate level the idea that professors are responsible for the vocational preparation of their students is a contentious issue in many liberal arts departments (Hogan, 1991), wherein psychology programs usually reside. In addition, section 2.01 (a) of the Ethical Principles of Psychologists and Code of Conduct of the American Psychological Association (2002) states, "Psychologists provide services, teach, and conduct research with populations and in areas only within the boundaries of their competence, based on their education, training, supervised experience, consultation, study, or professional experience." This would preclude undergraduate psychology students from providing psychological services. Subsequently, there may be fewer advantages of experiential learning for undergraduate psychology students. These may be two of the reasons that experiential learning programs are not as common at the undergraduate psychology level as they are at the graduate level. They are not for everybody.

One of the reasons the psychology department at Emporia State University decided to start an experiential learning program is because the majority of our students who graduate with a bachelors degree enter the work force upon graduation and do not pursue a graduate education. Therefore, our department felt the need to better prepare our students for how to make use of their knowledge of psychology in real world settings upon graduation.

Is an Internship the Type of Experiential Learning that Best Fits Our Needs?

There are many ways for students to acquire knowledge and skills outside of the classroom. Three

different methods are cooperative education, practica, and internships. In cooperative education programs a student alternates between taking classes and working a job within his or her field. According to the Merriam-Webster Dictionary (Practicum, n.d.), a practicum is "a course of study designed especially for the preparation of teachers and clinicians that involves the supervised practical application of previously studied theory." The psychology department at Emporia State University felt that these two options required too much of an investment of the students' time given the fact that undergraduate psychology students are not allowed to provide psychological services. Therefore, the third method, internship, seemed a better option because it is smaller in scope.

Molseed, Alsup, and Voyles (2003) noted four characteristics of a typical internship: the student works for an outside organization in either a paid or an unpaid capacity, there is a set number of hours the student is asked to work, the student receives course credit for the internship, and the student's work is overseen by a faculty member and an organizational supervisor. Most undergraduate internships take place during a single semester and take up only a portion of the student's time while he or she also takes other courses. The undergraduate psychology internship program at Emporia State University conforms to Molseed, Alsup, and Voyles' depiction.

What Should the Focus of Our Undergraduate Internship Program Be?

Lisman (1998) suggested that each type of internship holds a different philosophical orientation. Thus, the mission of a psychology department's internship program needs to be aligned with the department's values, otherwise, the internship director will struggle in developing appropriate program objectives and assessing program success. A dialogue within the department needs to take place over what the internship program's goals should be in light of departmental and institutional values because the goals a department chooses to pursue with its internship program will create different consequences for the students, the professors, the university, the partner organizations, the wider community, and other stakeholders.

One value question to examine is whether the program should focus more on student learning, more on community service, or focus on both goals in equal measure. Furco (1996) and Godfrey, Illes, and Berry (2005) created a three-category taxonomy of service-learning. The first category, Big S and Little L, focuses primarily on the service provided by the

students to the clients or to the community, and only secondarily on student learning. Volunteerism or community service projects fit into this category. An example from Furco (1996) is a program in which a student volunteers to visit with Alzheimer patients who need some company with the main goal being the enhancement of the patients' quality of life. The second category, Big L and Little S, focuses primarily on student learning, and only secondarily on the service provided by the students. Internships or working on a research or consulting project with a professor would fit into this second category. An example might be a student who wants to become an industrial-organizational psychologist working in a human resource department for a semester with the main goals of the internship being (a) for the student to make connections between classroom concepts and organizational realities and (b) to enhance the student's insights into the profession for career planning purposes. The third category, Big S and Big L, achieves a balance between service and learning because the program *intentionally* benefits both the student who provides the service and the clients for whom the service is provided. Furco (1996, p. 5) provides the following example:

A pre-med student in a course on the Physiology of the Aging might apply the theories and skills learned in that course to providing mobility assistance to seniors at the local senior citizen center. While the program is intended to provide a much needed service to the seniors, the program is also intended to help the student better understand how men and women age differently, how the physical aging of the body affects mobility, and how seniors can learn to deal with diminishing range of motion and mobility. In such a program, the focus is both on providing a much-needed service and on student learning.

At Emporia State University, even though most of the internships are with non-profit community service organizations, the undergraduate psychology internship program could be characterized as a Big L and Little S program because the course objectives focus primarily on what the student has learned, not on how much the student has contributed to the community. This relates back to our goal of preparing our students to make use of their psychology knowledge in real world settings.

While 90% of our students intern with outside organizations, we offer our students two different types of internships: either a field internship or a research internship. With the former, the student interns with an outside organization. With the latter, the student is required to complete an original research project defined collaboratively by the intern

and the intern's faculty mentor. In a study of undergraduate research internships, in which students work with a professor on a research project, Kardash (2000) found that the students developed a number of research skills during their internships, such as searching the literature, formulating a hypothesis, designing an experiment, collecting and analyzing data, interpreting results, etc. While these skills will be especially valuable to students anticipating a research or academic career, they are also essential skills for any decision-making role that requires an individual to use data to draw conclusions for taking effective action.

It is impossible for an internship program to be all things to all people. According to Michael Porter (Edmonson, 1998, p. 5), a teacher of strategic decision making at Harvard Business School, "Strategy is deciding what not to do." He feels that too many organizations resist tradeoffs, the idea that in providing a customer with more of A, you have to offer less of B. An undergraduate internship program has a greater chance of successfully achieving its goals if everyone involved can see a clear line of sight from departmental values, to internship goals, to measures of success. These are decisions that need to be made communally before the internship director takes over the day-to-day administration of the program. He or she needs to know not only what the internship program is supposed to accomplish, but also what it is not supposed to accomplish.

At What Level of the University Should Our Program Be Organized?

If social action and community service are important values that a psychology department wants to focus on with its internship program, too often the one-semester time frame of the typical internship combined with a limited number of students working at each internship site favors the students' needs over those being served. Butin (2003) proposed that service-learning internships would be more likely to serve community needs if they were organized at a higher institutional level because more resources could be made available to tackle long-term community projects. Also, there would be greater academic legitimacy that would carry more political capital in the community, often needed to push social change. Another benefit of institutional ownership of the internship program would be the opportunity to create a cultural norm of service across the university. If a university takes this approach to undergraduate internships, it may want to join Campus Compact which is "a national coalition of more than 1,100 college and university presidents -

representing some 6 million students - dedicated to promoting community service, civic engagement, and service-learning in higher education" (Campus Compact, 2010). Because Emporia State University's undergraduate psychology internship program focuses more on student learning than on community service, we have chosen to not pursue organizing at a higher institutional level.

Where Should Internships Take Place?

One of Molseed, Alsup, and Voyles' (2003) four characteristics of a typical internship is that the student works for an outside organization. Most of the interns in Emporia State University's undergraduate psychology internship program intern at an outside organization. Our internship handbook states that the field internship is an applied learning experience at a work site ranging from mental health and correctional facilities to business and industry. While most of our students prefer field internships, some interns choose the research internship. The latter students do not have to work within Emporia State University's psychology department. Instead, they may decide to work on a research project with a psychology professor at another university, with a professor in another field on a multidisciplinary topic that relates to psychology, or with a practicing psychologist who is interested in the student's research.

Who Should Be Responsible for Finding an Internship and How Is One Found?

It is nice when a department can rely on external resources to help students secure internships. At Emporia State University the internship director encourages undergraduate psychology students to consult with the university's Career Services Department. However, because they have a staff of only three counselors who work with the entire university population on a variety of career issues, they are frequently unable to find an internship for the student. Nonetheless, encouraging students to develop a relationship with the school's career services department can help students with setting career goals, career exploration, and finding a job upon graduation even if the career services department is unable to find an internship for the student.

Perhaps the most important external resource is the size of the town in which the school is located. Many schools reside in small towns that have a limited number of organizations. The town of Emporia, Kansas, for example, has about 25,000

residents. Subsequently, our interns tend to use the same internship sites over and over. Some of our students complete their internship over the summer in other communities where internship opportunities are more abundant.

Bailey, Hughes, and Barr (2000) discovered that employers who take on interns tend to do so for philanthropic reasons, while employers who do not take on interns often argue that more bottom-line benefits are needed to persuade them to take on interns. An internship director can use the talent retention argument to answer the organizational question of "What's in it for me?" In Massachusetts, an alliance of 13 colleges in the center of the state, the Colleges of Worcester Consortium, has a community placement program that has helped place thousands of students in community service, work study, and research internships (Sasser, 2009). This collaborative effort between the colleges and employers helps students identify local job opportunities and helps employers identify students they might like to hire. This might be a solution to explore for creating more internship opportunities in Kansas for our students and those at nearby colleges and universities.

It is also nice when a department has the internal resources to hire someone to oversee the internship program. Part of this person's job would be to develop relationships with relevant organizations so that the department's students could enjoy a myriad of internship opportunities. Unfortunately, the director of the undergraduate psychology internship program at Emporia State University is also a full-time faculty member. Therefore, much of the onus of securing an internship gets placed on the students. Walter (2007) provided students with ten useful hints on obtaining internship placements:

1. Begin your internship search at least 2-3 months in advance.
2. Consult with faculty about your goals and interests.
3. Consult with your institution's Career Services and/or Alumni Relations office.
4. Consult former interns.
5. Investigate settings in which you may want to work or study.
6. Search the Internet.
7. Investigate "nontraditional" internship placements.
8. Be assertive in pursuing internships.
9. Anticipate meeting with the prospective internship's staff.
10. Discern your need for appropriate insurance coverage before starting internship.

These tips are also useful for internship directors because the director can make the job of finding an internship less onerous for his or her students. For example, the undergraduate psychology internship program at Emporia State University divides the internship into two parts: obtaining an internship and completing the internship. One semester is devoted to the first part, for which the student receives one course credit. Then the next semester, the student completes the internship for three course credits. By setting aside a semester to obtain an internship, Walter's first suggestion to begin the internship search at least 2-3 months in advance is followed.

The undergraduate psychology internship program at Emporia State University also requires every student to meet with the internship director to discuss career goals and interests in order to identify what type of internship would work best for each student before the student begins his or her internship search, in compliance with Walter's second suggestion.

In addition, our students are given a list of internship sites that the department has used in the past so they do not have to start from scratch. However, the students are free to develop their own internship, as long as the internship director approves. The students are also encouraged to talk to former interns about the advantages and disadvantages of different internship sites.

One mistake that students sometimes make is sending prospective organizations resumes and cover letters that have been poorly crafted. To deal with this, our students are provided sample resumes and cover letters to use as templates. They are also encouraged to let the internship director proofread them before sending them out. In crafting a cover letter to prospective organizations it is important to communicate to the organization the benefits of taking on an intern. For example, one benefit of internships is that they can lower recruiting costs. A 2008 survey conducted by the National Association of Colleges and Employers (cited in Sasser, 2009) found that in the Northeast roughly 70% of student interns get offered fulltime positions from their internship employer. The prospect of scouting for talent is a selling feature an internship director might use to persuade an organization to take on an intern.

Another mistake that students make is waiting until the last minute to search for internships. To deal with student procrastination, our students receive periodic e-mails throughout the semester asking for progress reports on their internship search.

When Should Students Take on an Internship?

At Emporia State University, the undergraduate psychology internship program has been setup as a

capstone experience for senior psychology majors. Our rationale is that because seniors will have taken more psychology classes they will be able to apply more psychological theories and concepts to their internship experiences.

However, in a study of early undergraduate research internships, Ishiyama (2002) found that student interns were better able to think analytically and logically, put ideas together, and learn on their own than students who did not take part in a research project early in their college career. While it would not be prudent to generalize this finding to all types of undergraduate internships, perhaps we should remain open minded and rethink our decision to have students wait until their senior year before they take on an internship. Perhaps early internship experiences would help students concretize the psychological theories and concepts they encounter in psychology classes they take afterwards.

How Long Should an Internship Take?

Another one of Molseed, Alsup, and Voyles' (2003) characteristics of a typical internship is that the student works for a set number of hours. The undergraduate psychology internship program at Emporia State University requires each intern to work at least 90 hours over a semester at an outside organization. That adds up to an average of six hours a week over a fifteen week semester. In addition to the internship hours, the intern also has academic responsibilities for the internship, such as a weekly reflection journal and a paper. Nonetheless, the student still has enough time to also take a number of additional courses at the same time. The decision to require 90 hours of internship work was based on an estimate of what a typical three hour course would require – three hours of classroom attendance plus three hours of reading for a typical class. Our decision to limit the undergraduate internship to 90 hours was somewhat arbitrary. Our graduate students, for example, are required to engage in many more internship hours that usually take more than one semester to complete.

Should the Students Get Course Credit for Their Internship?

Another one of Molseed, Alsup, and Voyles' (2003) characteristics of a typical internship is that the student receives course credit for the internship. The interns in Emporia State University's undergraduate psychology internship program receive three hours of course credit for their internship work. They also receive one hour of course

credit for their internship search, which takes place in the previous semester. Because most of the internship sites do not pay the students for their efforts, making the internship a required course with a grade is our way of motivating the student to be actively engaged in the internship process.

Should the Students Get Paid for Their Internship?

While the typical internship involves volunteer work, students obviously prefer paid internships because they help defray the increasing cost of a college education. Internship directors can help their students get paid internships by searching for grants. For example, the state of Vermont awarded a half million dollars in grants to public and private organizations in 2009 to help them offer paid internships to high school and college students (Sasser, 2009). Perhaps there are similar grants available in other states.

Many students must work while they attend college to help pay for tuition. The U.S. Department of Education (2002) reported that in 2000 77% of college students were employed. Unfortunately, the more hours students spend working, the poorer their study skills (Lammers, Onweugbuzie, & Slate, 2001), the longer it takes them to graduate (Canabal, 1998), and the lower their grades (Butler, 2007; Di, 1996; Trockel, Barnes, & Egget, 2000). However, Butler (2007) found that certain aspects of work can benefit students. For example, when students' jobs are more congruent with what they are learning in school, school effort and school satisfaction are higher. Also, when students have greater job autonomy, school satisfaction is higher. On the other hand, when students' work hours are higher, their GPA is lower. Greenhaus and Powell (2006) argue that the resources one accumulates occupying one role, such as the employee role, can enrich experiences in other roles, such as the student role. If students can find paying jobs that are related to their field of study and career interests and those jobs are accepted as internship sites, then the student can benefit educationally and financially. An example of a student job that has doubled as an internship for a psychology student at Emporia State University was a student who was working a paid job in the university's Office of Disability Services. Because this student was interested in getting an advanced degree in rehabilitation counseling, it was decided that her job could serve as an excellent internship site.

Who Should Supervise the Interns' Work?

Another one of Molseed, Alsup, and Voyles' (2003) characteristics of a typical internship is that the intern's work is overseen by a faculty member and an organizational supervisor. At Emporia State University, the psychology students who undertake the field internship must have an organizational supervisor who oversees their weekly work. Their work is indirectly supervised by the internship director, who maintains a weekly dialogue with the interns through their reflection journals. The psychology students who undertake the research internship, on the other hand, must have a faculty sponsor who agrees to oversee their research efforts and their weekly reflection journal.

A theoretical reason for requiring supervision is Lev Vygotsky's concept of the zone of proximal development from his sociocultural theory. The zone of proximal development is "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance, or in collaboration with more capable peers" (Vygotsky, 1978, p. 86). In other words, under expert guidance students are more likely to master tasks that are currently beyond their grasp. For the field internship, the organizational supervisor provides expertise about the student's job duties, while the internship director can help the student sharpen the psychological lens he or she is using to better understand his or her internship experiences. In practice, the students will benefit the most from supervisors who provide effective feedback and coaching. For that to happen, the internship director needs to let organizational supervisors know what is expected of them when they take on an intern. And to insure that the organizational supervisors are responsive to the internship director's suggestions, it is critical for the internship director to keep the relationships with the organizational supervisors well oiled.

Do Interns Need Any Special Pre-Internship Training?

Because skilled workers will have to take time away from their jobs to supervise interns, an organization will be wary of taking on interns who are either too immature (e.g., poor work ethic and/or unprofessional) or too incompetent to help accomplish its mission (Molseed, Alsup, & Voyles, 2003). To deal with this issue, the undergraduate

psychology internship program at Emporia State University has an internship orientation in the school setting before the students begin their internships. The interns meet with the internship director who makes sure that the interns are made aware of the work expectations and the ethical expectations that will be placed on them.

An example of an ethical issue that interns need to be aware of before they begin their internship is the importance of maintaining confidentiality, especially if they will be working with sensitive information. Some of the internship sites conduct their own training on this issue and require the intern to sign a statement indicating that he or she understands the organization's rules and agrees to follow them. However, many internship sites overlook the need to instruct interns on client and/or employee rights to privacy and assume that the interns will behave responsibly. It is the internship directors' responsibility to make sure that the interns are aware of how the five general principles of the Ethical Principles of Psychologists and Code of Conduct of the American Psychological Association (2002) apply to their internship responsibilities.

While every intern is encouraged to help his or her organizational supervisor, there are situations where the needs of the organization's clients or customers supersede those of the intern's supervisor. Thiel and Hartley (1997) recount a situation where an intern was given repeated directions by supervisors to ignore OSHA safety regulations. Here is where the internship director needs to intervene and remove the student from an unethical and/or illegal internship site and remove that internship site from future consideration. As part of their pre-internship training, students need to know when to ask their internship director for help or for clarification when they have a question about their internship duties.

What Kind of Duties Should Our Students Undertake?

While interns in Emporia State University's undergraduate psychology internship program are not allowed to provide psychological services, they are encouraged to obtain internships in which they will be working with populations that are relevant to their future ambitions as psychologists. For example, a student interested in becoming an industrial-organizational psychologist might intern in a human resource department, a student interested in becoming a school psychologist might intern at a high school, or a student interested in becoming a marriage and family therapist might intern at a women's shelter. Internships can also provide students with

opportunities to build their multicultural competence as they interact with different types of people who introduce them to new human realities. As Butin (2003, p. 1683) wrote, "Such border crossing - be it physical, social, cultural, or intellectual - provides students the opportunity to glimpse or even become immersed in a reality unknown to them beforehand."

Students prefer internships with tasks that are career related, clear, and challenging, but not overwhelming (Dixon, Cunningham, Sagas, Turner, & Kent, 2005). Challenging tasks allow interns to develop their people skills or to use the skills they have learned in school, such as analyzing data or report writing. However, students are sometimes asked to perform clerical duties or other mundane tasks. Interns are expected to be good organizational citizens, which means showing up to work on time, following directions, taking initiative, helping coworkers, and maintaining a positive outlook even when asked to perform mundane tasks. These work expectations can improve students' generic job skills. In a qualitative study of service-learning internships, Einfeld and Collins (2008) found that participants developed important people skills such as empathy, patience, trust, and respect. Other skills that students develop during internships include time management, communication skills, self-discipline, and initiative (Dennis, 1996; Taylor, 1988). These are skills that will not only aid the student back in the classroom, but also in future employment situations.

How Should the Interns Be Evaluated on Their Internship Performance?

With undergraduate psychology internships, the focus cannot be on the development of specific professional skills, such as psychotherapy or interpreting psychological tests. Because the focus of Emporia State University's undergraduate psychology internship program is on student learning, students are graded on three student products and their supervisor's evaluation. To receive a passing grade, the intern must first receive an acceptable evaluation from his or her organizational supervisor (or with his or her faculty mentor if it is a research internship). Second, the intern must demonstrate his or her psychological knowledge and thinking in the internship setting by maintaining a weekly reflection journal with the internship director (or with his or her faculty mentor if it is a research internship). Third, the intern must write a paper that integrates two psychological theories with the student's internship experience (or write up the research if it is a research internship). Finally, the intern must create a poster for the end of semester poster session either

describing the student's internship or the student's research.

The intern's supervisor at the organization is asked to evaluate the intern about one third of the way into the internship and again near the end of the internship. Usually, no problems emerge, but if there are problems it helps to discover them early. In these cases, a three way meeting between the intern, the organizational supervisor, and the internship director is set up to hear everyone's view of the situation and to set goals for resolving the conflict so the intern can perform well on his or her next evaluation. Because our interns cannot pass the class without an acceptable report from their supervisors they are motivated to perform well, otherwise they will have to complete another internship.

One of the great advantages of an internship is the opportunity to gain knowledge of oneself. To foment self-discovery in the Emporia State University undergraduate psychology internship program, students are required to maintain a weekly reflection journal that is e-mailed to the internship director who responds. Eyler and Giles (1999) reported that students learn more when they are frequently asked to reflect on their internship experiences. Eyler (1993) found that regular reflection activities helped interns not only connect their experiences with curriculum concepts, but also helped interns learn how organizational politics and interpersonal dynamics shape decision making, helped interns improve their ability to see things from another person's perspective, and helped interns learn to think about cause and effect from a more systemic viewpoint.

A weekly self reflection journal can help students digest their experiences and make meaning, but as Butin (2003, p. 1687) pointed out, many authors advocate the use of reflection but little research exists on: "what students should reflect on; how long and how often they should reflect; whether reflection should be in class, out of class, or some combination thereof; what mode of reflection is valid (e.g., monologue, dialogue, performance, written); the level of descriptive, analytic, and reflective detail; and the means by which such reflection will be assessed (e.g., self-, criterion, or norm-referenced)."

While a weekly self reflection journal can help students make meaning of their experiences, it may not be enough. In their study of service-learning internships, Einfeld and Collins (2008) had participants reflect about social issues in journals, but they recommended a "more structured analysis at monthly meetings to stimulate discussion about the social, cultural, and institutional systems that contribute to inequality," to help the students make sense of their experiences. We are considering the

addition of similar meeting to the internship program at Emporia State University so that interns can come together to discuss their internship experiences periodically.

In addition to self knowledge, internships complement classroom teaching because students learn to apply theoretical concepts in an applied setting which enhances retention (Raymond & McNabb, 1993). To enhance the connection between school and internship experiences, the Emporia State University program not only requires interns to maintain a weekly reflection journal, but students are also required to write a paper in which they apply two psychological theories to their internship experience. This provides students with a chance to integrate psychological theory with what they have observed, experienced, and reflected upon over the course of a semester.

The poster for the student poster session that our students are required to produce is an advertisement of the internship program to sophomore and junior level psychology majors so they can begin thinking about what they might do for their internships.

The evaluation scheme of Emporia State University's undergraduate psychology internship program fits our values and goals, but it might be inappropriate for a program with different goals.

How Should Our Department Evaluate the Effectiveness of Its Undergraduate Internship Program?

Is Emporia State University's undergraduate psychology internship program effective? The answer to this question depends on one's definition of success. Because our program has an academic focus on student learning, the goals of self knowledge and learning to apply theoretical concepts in an applied setting take center stage for us. However, one of our reasons for developing an undergraduate psychology internship program was to better prepare students for the work world upon graduation. We do ask each intern's organizational supervisor to evaluate him or her on a number of work behaviors such as punctuality, initiative, willingness to learn, completing assignments on time, following through with tasks until completion, and working well with staff.

Our evaluation instrument needs to be updated to reflect the U.S. Department of Labor's 1991 SCANS Report: The Secretary's Commission on Achieving Necessary Skills. The report identified the work skills workers will need for the 21st century's knowledge economy: the ability to identify, organize, plan, and allocate resources; the ability to work with others;

and the ability to acquire and use information. The report also identified critical personal skills such as self-management, responsibility, integrity and honesty, self-esteem, and sociability. To the extent our interns succeed in developing these important workplace skills, the American workforce will be better positioned to compete in the global marketplace. We need to rebuild our evaluation instrument to incorporate the SCANS' work skills and personal skills.

Currently, we ask each intern's organizational supervisor to evaluate his or her work behaviors. However, we do not ask the interns to evaluate their organizational supervisor and their internship site. Evaluation needs to be a two-way street. An internship director needs to collect data on which organizations provide good experiences for students and which organizations do not. This information can be used to continually improve the quality of the internship offerings. This is a shortcoming of our program at Emporia State University that needs to be remedied.

Not only can internships improve interns' job skills, research indicates that students with internship experience are more likely to get hired, get hired quicker, and command higher salaries (Callanan & Benzing, 2004; Gault, Redington, & Schlager, 2000; Knouse & Fontenot, 2008; Knouse, Tanner, & Harris, 1999). Internships can also improve students' chances of being accepted into graduate school (Landrum & Clark, 2005; Prerost, 1981). To assess the quality of our interns' vocational preparation, we could go back in time and compare the years before we implemented our internship program to the years since then to see if the students who had internships have fared better in the workplace or in graduate school.

Even if an internship does not immediately lead to a job or graduate school, the work experience can help students explore career choices and improve their job search strategies (Hall, 1976; Kane, Healy, & Henson, 1992). We may need to examine the impact of the internship on the students' clarification of their career plans.

The goal of higher education is not just to prepare students for a career, but to prepare students to be responsible citizens (Kezar, 2002). Community service based internships remove students from the ivory tower and introduce them to community problems in which their fellow citizens must contend with poverty, violence, injustice, poor health, and other ills. In addition to developing professional skills, many community service interns develop an enhanced awareness of societal difficulties that need to be addressed and an enhanced sense of civic responsibility to something greater than themselves

(Astin & Sax, 1998; Astin, Sax, & Avalos, 1999; Coles, 1993; Lisman, 1998). Markus, Howard, and King (1993) also found that service-learning interns felt more positively about service and about their community compared to other students.

If the focus of an undergraduate psychology internship program is more on service and preparing students to become responsible citizens, then one measure of program success might be students developing an awareness of social inequities. Einfeld and Collins (2008) warned in their study of service-learning that it is not enough to just make students aware of social inequities; students need to be empowered to feel they can do something about the problems they encounter so that they will become more committed to rectifying problems and building stronger communities for the future. Thus, another measure of the success of the internship program might be the students' sense of self efficacy in contributing to meaningful improvements upon graduation.

Cruz and Giles (2000, p. 28) pointed out that the "service-learning research literature to date is almost devoid of research that looks at the community either as a dependent or independent variable." Butin (2003) argued that an important service-learning criterion is reciprocity, the idea that the service rendered should benefit not only the advantaged students, but also the disadvantaged recipients. Too often this criterion is not measured; it is merely assumed that recipients are being helped. Thus, we know that internships and service learning benefit students, but we do not know what kind of impact interns are having on the organizations and communities which they serve. Measuring the interns' contributions would be another way of examining the success of an internship program.

To date, the undergraduate psychology internship program at Emporia State University does not measure student growth in citizenship or intern service contributions. Our self serving rationale has been that we are following Michael Porter's advice that effective strategic decision making is deciding what not to do as much as deciding what to do.

For psychology departments with an undergraduate internship program or for those considering one, I hope reading about the questions we struggled with as we developed our program at Emporia State University, and continue to struggle with, provided some useful insights. The material was presented as a series of questions, not dictums, because our department continues to revisit these questions to promote inquiry and continuous improvement. Each psychology department has to find its own answers and those answers may change over time. Also, there are probably important questions that our department neglected to consider that we will need to discover and explore. Thus, this chapter serves as a working document for program inquiry and program improvement.

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Residential Learning Communities in Psychology: How to Get Started

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Residentially based learning programs have been in existence for decades. In their earliest form, they existed as residential colleges based on the social clubs of Oxford and Cambridge (Thelin, 2004). Meiklejohn's experimental college at the University of Wisconsin in the late 1920s is typically credited as the first community intentionally created for small groups of students with specific learning objectives (albeit, without the residential component; cf. Brower & Inkelas, 2010). Over time, these programs have transitioned into various forms, but they have always been grounded on the same philosophy; students are more successful academically and socially when they are supported both inside and out of the classroom. The most recent form of residentially based programs began making its way through American institutions in the second half of the 20th century (Inkelas & Wiseman, 2003; Smith, 2001). These programs are based on the concept of "themed housing", which invites students who share common interests to study and live together to help fully engage the students in the area. This "themed housing" is now the model on which many schools base their learning community programs.

A version of the "themed housing" residency-based learning program being introduced around the country is residential learning communities (RLCs; also commonly known as living-learning communities or programs). RLCs are predicated on the combination of three major components: experiential learning, a sense of community among all participants, and a connection to the broader area or discipline. As with most residential programs, part of the RLC learning component comes in the form of at least one co-enrolled course and the connection with multiple faculty advisors, which make up the leadership team and provide out-of-classroom activities/instruction that tie in with their academic coursework. In essence, this portion of the RLC learning component is what most would consider to be a traditional learning community (LC; see chapter 9 on non-residential learning communities in this volume). In the RLC, participants also live together in university housing, which provides them with an opportunity to interact, study, and collaborate more frequently with their peers than in traditional LCs. This co-habitation helps RLC participants begin the process of understanding the true concept of community and provides a sense of support that is unmatched in most other programs currently offered by institutions of higher learning. RLCs complement traditional LC programs by explicitly focusing not only on students' intellectual or academic achievement and development, but also on their social, emotional, and co-curricular development.

The final main component of an RLC is the opportunity to connect to and educate current participants, prospective students, and the community-at-large about the broader discipline. For example, common misconceptions about the field may be addressed in an RLC, helping to promote a more accurate understanding of the discipline in the general community, especially among students who may not major in the field, and therefore have limited coursework in the discipline. This supports attempts to educate a population that is knowledgeable about the area or discipline and provides a mechanism for recruiting promising and motivated students into a particular major. Given the opportunities to develop a sense of community and inclusion, this is particularly true among populations that may be underrepresented in a discipline.

Students generally are not mandated to enter an RLC. Accordingly, those students who self-select into RLCs tend to be highly motivated, intrinsically interested students who are actively seeking experiences to supplement the traditional collegiate curriculum. These population characteristics increase the likelihood of engagement; appropriate programming, resources, and opportunities help to realize this promise.

These potential advantages are particularly apparent when forming a psychology-themed RLC, specifically. Psychology has long suffered from a disconnect between the discipline's self-identity and popular public perception of the field. Psychology RLCs are one forum in which to promote psychological literacy among the general population

(see, e.g., McGovern et al., 2010). Among students who select majors in another discipline, a psychology RLC can help to raise public awareness of the scientific, empirical basis of the field (cf. Ewing et al., 2010). Psychology, like many disciplines, has also struggled with recruiting and retaining individuals from minority populations into the field. In addition to these traditionally underrepresented groups, there is also growing concern about the "feminization" of the field (see, e.g., Littleford et al., 2010). Because an RLC can be designed to include equal numbers of men and women, psychology RLCs can help to recruit more men into the field.

Despite the advantages conferred by learning communities (cf. Klein, 2006; Inkelas & Wiseman, 2003; Schein, 2005), there are few of these programs in Psychology in the U.S. as compared to related programs with a broader focus (e.g., freshman-year experiences, local-to-global programs). Even rarer are *residential* learning communities. Institutions that do offer a learning community (residential or otherwise) in Psychology include Iowa State University, James Madison University, Keene State College, Loyola Marymount University, Syracuse University, Texas State University-San Marcos, and the University of North Carolina-Charlotte (see, e.g., Barron, Buch, Andre, & Spaulding, 2010).

Brain Matters: The First Year

Brain Matters is the psychology-oriented RLC at Appalachian State University. Appalachian is a mid-sized comprehensive university in the southeastern U.S. The overall enrollment at Appalachian is just over 17,000 students, of which approximately 15,000 are undergraduates. Of these, approximately 600 undergraduate students are Psychology majors. The *Brain Matters* RLC is consistent with the Department of Psychology's values and mission, including mentoring and focus on psychological science in various contexts; collaboration among students, staff and faculty, and the broader community; a culture of intellectual curiosity within a liberal arts framework; and an emphasis on active and experiential learning opportunities for Appalachian students.

Planning: The Leadership Team

While the specific characteristics of any psychology-related RLC will depend upon particular institutional variables (e.g., the institution's mission, size, student population, location, resources, housing structure), there are some general principles that should guide the development of a new RLC. Starting an RLC with any focus, including psychology, should

begin with a goal in mind (Barron, Buch, Andre, & Spaulding, 2010). *Brain Matters* began with the goals of connecting incoming freshmen who indicated enough interest in psychology to select an RLC with that orientation with opportunities to discover the science and application of psychology. These goals represent acknowledged good practice in undergraduate education (Brewer et al., 1993), and achieving them can be facilitated by the community and breadth of experiences possible with an RLC (Brower & Inkelas, 2010; Inkelas & Wiseman, 2003).

A second, and critical, early step in forming an RLC involves making connections with the office or individual charged with overseeing RLCs on campus. This office or individual may have responsibility for only RLCs or all LCs, and it is more likely than not that this contact will be found within a division of student affairs rather than academic affairs (Brower & Inkelas, 2010). At Appalachian, RLCs have a coordinator who holds a position in University Housing, which is part of Student Development. Initially, a faculty member who had worked with a science RLC and as a faculty fellow for a residence hall for several years and the RLC coordinator who had an interest in promoting increased academic involvement in RLCs began discussing the possibility of developing a psychology-oriented RLC. These conversations led to the decision to pursue a psychology-interest RLC, which would later become *Brain Matters.*

The next step involved the creation of a leadership team comprised of interested psychology faculty and the RLC coordinator. Eventually, most leadership teams also include the Resident Assistant (RA; note that at some institutions, this position is referred to as the Resident Advisor) for the floor or floors housing the community and the Residence Director (RD) for the building housing the RLC, which is the case for the *Brain Matters* team. Ideally, these positions will be filled through a careful selection process, in which RLC-related interests and strong potential for mentoring will play a central role. Wherever possible, RA and RD selection should involve the faculty members of the leadership team.

In the case of *Brain Matters*, the initial planning of a disciplinary-centered community occurred prior to RA and RD selection and relied on collaboration among interested faculty members and the RLC coordinator. Because faculty have a tendency either to really enjoy or really dislike working with student development initiatives, the initial success of an academically connected RLC depends a great deal upon the faculty who are involved. Due to faculty having many competing demands (e.g., classroom teaching, research, non-RLC service) and that involvement in RLCs is likely to be largely

uncompensated in the traditional promotion and tenure infrastructure at most institutions, getting involved in an RLC is for volunteers rather than appointees (cf. Klein, 2006; Schein, 2005).

In our case, the leadership team involved in giving substance to the idea of *Brain Matters* included the faculty member who generated the idea of having a psychology-related RLC, a relatively new faculty member who was a faculty fellow for a residence hall, a third faculty member who had just finished some years as the Psi Chi advisor, and the coordinator for RLCs from Residence Life. All three faculty were committed to providing quality and innovative undergraduate education, promoting student learning and development both in and out of the classroom, and making connections across traditional boundaries to facilitate the undergraduate experience, which all contribute to positive student outcomes associated with RLCs (Brower & Inkelas, 2010; Inkelas & Wiseman, 2003).

The leadership team (i.e., the faculty and RLC coordinator, without the RA or RD) began meeting during the year, before our RLC began enrolling students, to formalize a mission, vision, core values, and learning objectives for *Brain Matters*. Interested readers are invited to contact the first author for copies of these documents and to visit the *Brain Matters* website at http://housing.appstate.edu/ pagesmith/123.

The final part of starting an RLC involved developing logistics, philosophy, and pedagogy for the community that would help it reach its goals and yield positive outcomes for student members (Barron et al., 2010; Inkelas & Wiseman, 2003). This planning work, which can range from deciding a size for the RLC to identifying academic courses that students will take, can be undertaken by a leadership team (without the RA or RD). Often, some written guidance and/or requirements for the framework of major RLC logistics and programming exist (e.g., Barron et al., 2010), which may include requirements for linked courses, expectation of monthly activities, etc., designed to enhance student experiences. These considerations are essential given the inherent complications that arise from coordinating the efforts of two distinct units on campus (i.e., the academic department and housing). It is important to have clear expectations and policies in place regarding how to navigate the different missions, infrastructure, resources, and procedures of the involved institutional units.

The Structure of *Brain Matters*

The *Brain Matters* RLC is located in a central area of campus and has space for 40 members. The community comprises an equal number of women and men who are all new first-year students. While some RLCs require that students plan to major in the discipline, *Brain Matters* sought students who are more interested in the field of psychology than those who were absolutely sure that they will be majors. This focus is reflected in mission ("to facilitate learning and exploration of psychology and the behavioral sciences") and vision ("help students make an informed decision about whether to pursue further experiences in psychology or a related field") statements. In fact, students who have expressed an interest in majors other than Psychology, but whose proposed majors are closely related to Psychology (e.g., pre-medical, education, allied health fields), and those who have not expressed interest in a specific major were invited to consider joining *Brain Matters*. Doing so helps to reach the goal of outreach to, and education of, the larger student community discussed earlier.

Because the *Brain Matters* students are first-year students, enrollment in specific sections of a General Education *First Year Seminar* course called *The Brain: A User's Guide* and our introductory psychology class, *Psychology: Historical, Social, and Scientific Foundations*, during the fall term is required. In the spring students will take psychology courses together but have the opportunity to make group choices of what course(s) they will take (e.g., a portion of the RLC students may take Social Psychology and another group may take Abnormal Psychology or another course). Blocks of seats will then be held in larger sections for these students. This permits community connection between living and academic settings while also allowing pursuit of differing interests within psychology. Courses may be held in traditional classroom settings in academic buildings or in the residence hall, depending upon room availability and the preferences of the instructor and housing staff.

Co-Curricular Programs and Activities

As a part of the university housing system, all RAs and RDs are required to provide programming in the residence hall, whether or not the hall is a part of an RLC. In addition to this typical residence hall programming, *Brain Matters* offers a series of monthly, evening meetings with psychology faculty. Additionally, opportunities for informal interaction with psychology faculty are planned throughout the year. Whenever possible, psychology faculty who are not members of the *Brain Matters* leadership team are invited to participate in these regular programs. In order to increase student-faculty interaction, faculty on the leadership team plan to hold a portion of their

office hours at the residence hall. In addition, faculty will engage in social interactions with students, such as helping *Brain Matters* students move into the residence hall, a fall cook-out to welcome RLC students to campus, and periodically dining with the students at the campus dining center throughout the school year. These efforts facilitate getting to know the students individually, which has been linked to retention and success in college (see, e.g., Inkelas & Wiseman, 2003).

In addition to the planned programs provided by the leadership team, a goal of the *Brain Matters* RLC is to provide opportunities for the RLC students to shape their own experiences. This targets student accountability and intrinsic motivation, and facilitates critical thinking skills by having the students identify a goal, problem-solve around implementing appropriate strategies, and evaluate their outcomes. Non-psychology RLCs that have implemented this type of programming have demonstrated a number of benefits, including increasing student engagement (e.g., active learning behaviors that reflect intrinsic motivation for learning and promote mastery and achievement) and academic success, students and faculty experiencing greater comfort with one another, and improved critical thinking and problem-solving skills (Grayson, 2003, as cited in Schein, 2005).

The *Brain Matters'* programming has the aim of introducing students to what psychology faculty do professionally and to provide additional, unique opportunities to learn about the science and application of psychology in engaging and memorable ways (e.g., Brewer et al., 1993). For example, it is anticipated that *Brain Matters* students will be more likely to begin engaging in faculty research earlier than non-RLC students, allowing further engagement and reinforcement of the empirical basis of the field. Students have ample opportunities for academic and career advising from faculty, but informal interactions promote conversations between faculty and students that can lead to lasting relationships among members of these groups (cf. Klein, 2006) that support the undergraduate experience. In the context of the RLC, students and faculty work collaboratively to reach common goals, rather than working within the traditional hierarchical structure typified in the traditional collegiate classroom.

In summary, for the faculty and staff involved with *Brain Matters*, the process of "starting" the RLC involved setting goals, developing a philosophy, and creating a logistic and pedagogical framework designed to help community members succeed academically, socially, and personally.

Benefits to RLC-Involved Students

Because *Brain Matters* is in its inaugural year, we do not yet have data regarding its effectiveness. However, there are a number of meaningful outcomes associated with involvement in other RLCs at Appalachian. The latest data collection performed by ASU's Institutional Research office for the 2009 RLC cohort revealed that RLC-involved students achieve higher fall-semester GPAs than non-RLC students ($p = .005$). While being involved in an RLC appears to confer benefits to students, having a course linked to the RLC has additional benefits, over and above overall RLC involvement. Specifically, RLC students who complete a linked course as a part of their RLC experience have significantly higher fall GPAs than their RLC peers who are not in a linked course ($p = .035$).

Because RLCs are programs that students opt into, it is a distinct possibility that students who opt into RLCs their freshmen year might be higher performing students to begin with. While this was not controlled for in the data analysis, comparisons have been made using student PGPAs (Predicted GPA: A calculation based on high school performance and SAT scores). Students who are enrolled in the linked course associated with the RLC have lower predicted GPAs than their non-RLC peers, but actually outperform these peers in terms of actual GPAs.

RLC involvement is also associated with higher retention from fall to spring semester during the first year. Additionally, a survey is administered through the University Housing office annually to review student satisfaction. The results of the 2009 administration show that students involved in RLCs report high levels of satisfaction with their experiences, with 81% reporting being satisfied or highly satisfied with their RLC experience and 80% reporting that they are proud to be involved in an RLC. These outcomes are meaningful goals for virtually any institution of higher learning.

The Future of RLCs

When living-learning programs first began many institutions focused on freshmen because this population was most obviously in need of support due to the transitional issues associated with beginning college. As these freshmen programs continued, assessment data suggested that these programs were providing significant institutional support for student engagement (Stassen, 2003). Given these promising results, it is reasonable to

consider how these successes might be expanded to other populations, including upperclassmen.

Research regarding the long-term impact of experiences in an RLC is mixed. Some data suggest that because these students have abundant support in their freshmen RLCs, they may experience some difficulty in their sophomore year when fewer resources and less institutional support is apparent (Gahagan & Hunter, 2003). For example, a large portion of financial resources and student support services are provided for freshmen and then reduced after the freshman year (Gahagan & Hunter, 2003). Upperclassmen have many other resources available to them, but support may not be as easily accessible as it was when they were freshmen. Other research (e.g., Brower & Inkelas, 2010) has demonstrated that RLCs do confer long-term benefits, including improved self-confidence, increased civic engagement, and greater willingness to act as mentors to other students. Although the research on long-term effects of living in an RLC is somewhat equivocal, it seems clear that expanding programs to a broader population is a worthy goal.

Developmentally, as students move on to their sophomore, junior, and senior years, the academic component of these RLCs can and should be more emphasized and therefore provide an overall more impactful college experience for the student. As freshmen, these residential programs have an academic component but many of the efforts are focused on social opportunities and experiences as well. However, as students move on to upperclassmen status and become involved in rigorous upper-division courses, the social components of these communities can begin to decrease in favor of more focus on the academic component. At that point, living among peers who are studying the same things and participating in the same projects can provide added academic support such as study partners/groups. In addition to social community support, RLCs can also provide an avenue to gain experiential learning opportunities (i.e., opportunities that emphasize the application of knowledge and skills to novel problems in the discipline) in their major area. Increasing such opportunities for student engagement and experiential learning is consistent with extant pedagogical goals within the discipline (e.g., Chew et al., 2010; Dunn et al., 2010; Littleford et al., 2010; McGovern et al., 2010).

Another new development in the RLC movement is to increase and support student-generated programs. A small number of schools have begun to provide programs in which the students take initiative in creating their own communities/programs. Students propose their idea to a committee comprised of faculty and staff from the university. Their proposals usually require a detailed plan related to the experiential learning component, a preferred list of housing location options on campus, names of the individuals interested in participating, and the support of a student-appointed advisor who has agreed to work with the group of students over the course of the year.

Finally, an area for future development in the RLC movement is to increase efforts to assess the outcomes associated with such programs, and to make such results widely available in the academic literature. Currently, because discipline-focused programs are still relatively new, little assessment data of this type are available.

Conclusions

Psychology-themed RLCs represent a relatively novel and under-explored forum for student engagement. Their structure provides ample opportunity for valuable experiences inside and outside of the traditional classroom. These programs are consistent with APA-endorsed learning outcomes and best practices, provide a context for promoting student engagement in a variety of learning contexts and stimulating experiential learning regarding phenomena from the behavioral sciences, facilitate faculty-student interactions, and support students in a holistic way. As the *Brain Matters* team moves into our first year with student members, we look forward to continuing to develop ways to achieve these lofty goals; we invite our colleagues at other institutions to do likewise.

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Increasing Student Engagement through Curricular-Based Learning Communities

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Since 2000, the National Survey of Student Engagement (NSSE) has surveyed over 2 million college students from over 1400 different colleges and universities to help determine the programs and practices in higher education that matter in promoting student engagement (NSSE, 2010). NSSE defines student engagement as "the amount of time and effort students put into their studies and other educationally purposeful activities." One experience linked to promoting many of NSSE's recommended practices for fostering engagement is participation in a *learning community* (NSSE, 2007). In fact, learning communities are frequently identified as an exemplar program in creating the factors that matter most by researchers who study college student success (e.g., Astin, 1985; Chickering & Gameson, 1987; Zhao & Kuh, 2004); and learning communities are repeatedly recommended in national policy reports as a key intervention to improve higher education (e.g., AACU's National Panel Report, 2002).

But what is a *learning community*? Rather than representing a single technique or approach to fostering student engagement, learning communities embody a more sweeping approach to educational reform that can involve any combination of the programs and techniques highlighted in other chapters of the current e-book. Consequently, it can be challenging to offer a single definition that fully captures the breadth of what learning communities entail. To appreciate the diversity of what a learning community can be, we find it informative to begin with the work of Lenning and Ebbers (1999) who outlined four basic structures for learning communities. The first is a *classroom-based* community where faculty adopt active and collaborative learning techniques to promote greater interaction and a sense of community between students and faculty in a specific course. The second is a *curricular-based* community that extends student/faculty connections beyond a single course by enrolling the same group of students into multiple courses together. The third is a *residential-based* community where students sharing similar curricular or co-curricular interests are housed together. The

fourth is a *student-based* community where students with common interests typically join a club or organization that brings them together (e.g., Psychology Club). There is merit in promoting all four types, and we encourage readers to consider each as a vehicle to increase student engagement.

However, without a doubt, the most common definition given for learning communities centers on curricular-based initiatives (or curricular-based approaches that combine residential-approaches). For example, Smith, MacGregor, Mathews, & Gabelnick (2004) offered the following definition in their seminal review of learning communities:

> We use the term *learning communities* to refer to a variety of curricular approaches that intentionally link or cluster 2 or more courses, often around an interdisciplinary theme or problem, and enroll a common cohort of students. They represent an intentional restructuring of students' time, credit, and learning experiences to build community, enhance learning, and foster connections among students, faculty, and disciplines… On residential campuses, many learning communities are also living-learning communities, restructuring the residential environment to build community and integrate academic work with out-of-class experiences. (p. 20)

Two parts of Smith et al.'s (2004) learning community definition are noteworthy. The first underscores that a variety of curricular approaches can be adopted. Indeed, three general curricular approaches are common, which vary in the degree of coordination of coursework and whether courses are taught exclusively to learning community students. In the first approach (often called *student cohorts embedded within existing courses*), small groups of learning community students are enrolled into a series of larger, existing courses that contain learning community and non-learning community students (e.g., a cohort of 25 students are enrolled into a 300 seat general psychology course and a 50 seat writing course). Because learning community students are integrated into existing courses along with non-

learning community students, less opportunities exist to integrate coursework in unique ways; in contrast, the advantage of this approach is that it is considered the easiest to implement because it operates within a university's existing course offerings and faculty may or may not realize that they have cohorts of learning community students. However, student cohort approaches can incorporate an additional, integrative seminar open only to learning community students to better facilitate connections between a cohort and their common coursework. In the second approach (referred to as either *linked or clustered courses*), learning community students are enrolled into a series of courses that only contain learning community students. This structure affords greater opportunities for faculty to integrate coursework by linking syllabi and assignments across courses. In the third approach (called *coordinated study*), learning community students take part in the most radical restructuring of their courses providing the greatest flexibility in how to coordinate and schedule students' experiences. Rather than enrolling learning students into 4 or 5 stand alone classes, learning community students are enrolled into a fully integrated program of coursework that isn't bound by a fixed semester schedule of separate courses meeting at particular times each week. Coordinated programs also involve the highest level of faculty collaboration, with faculty often engaged in team-teaching.

The second notable part of Smith et al.'s (2004) learning community definition underscores that learning communities are interdisciplinary in nature. Historically, curricular-based learning communities were initiated to promote deeper connection and engagement in general education coursework. However, more recently, discipline-based learning communities centered on a particular major have grown in popularity, and we would like to share our experiences in how learning communities can be used in the context of psychology to promote student engagement.

Discipline-Based, Curricular-Based Learning Communities

We have joined forces to highlight two different approaches in developing curricular-based learning communities for first year psychology students on our respective campuses at James Madison University (JMU) and the University of North Carolina at Charlotte (Charlotte). As we review our programs, we would like readers to note how a learning community does indeed comprise a host of interventions designed to promote student engagement (e.g., below we will showcase how our approaches integrate other student engagement

practices involving out-of-class experiences, undergraduate research experiences, service-learning, 1st year advising/orientation, peer mentoring, writing, and active/collaborative learning). And, we would like to provide readers with two simple frameworks of student success that can be used to guide the initial planning of a learning community, as was the case at JMU, and also to guide a curricular revision process as was the case at Charlotte.

The first guiding framework comes from Alexander Astin's (1993) *What Matters in College?: Four Critical Years Revisited*. Based on longitudinal data on over 20,000 college students, 25,000 faculty, and 200 higher-education institutions, Astin concluded that three factors were particularly influential in predicting college student success: 1) student-faculty interaction, 2) student-student interaction, and 3) student time-on-task.

The second framework comes from psychology and comprises a list of 10 learning goals and outcomes recommended by the 2002 *APA's Task Force on Undergraduate Psychology Major Competencies* (Halonen et al., 2002) that subsequently were adopted as the *APA Guidelines for the Undergraduate Psychology Major* (2007). The 10 goals reflect the knowledge, skills, and values that students ideally should master after completing a major in psychology. If you are unfamiliar with guidelines, the 10 goals are listed in Table 1.

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Table 1. APA's 10 Learning Goals and Outcomes for the Undergraduate Psychology Major

Goal 1. Theory and Content of Psychology - Demonstrating familiarity with the major concepts, theoretical perspectives, empirical findings, and historical trends in Psychology.
Goal 2. Research Methods in Psychology - Understanding and applying basic research methods in Psychology, including research design, data analysis, and interpretation.
Goal 3. Critical Thinking Skills in Psychology - Respecting and using critical and creative thinking, skeptical inquiry, and, when possible, the scientific approach to solve problems..
Goal 4. Application of Psychology - Understanding and applying psychological principles to personal, social, and organizational issues.
Goal 5. Values in Psychology - Being able to weigh evidence, tolerate ambiguity, act ethically, and reflect other values that are the underpinnings of Psychology as a discipline.
Goal 6. Information and Technological Literacy - Demonstrating information competence and the ability to use computers and other technology for many purposes.
Goal 7. Communication Skills - Being able to communicate effectively in a variety of formats.
Goal 8. Sociocultural and International Awareness - Recognizing, understanding, and respecting the complexity of sociocultural and international diversity.
Goal 9. Personal Development - Developing insight into one's own and others' behavior and mental processes and applying effective strategies for self-management and self-improvement.
Goal 10. Career Planning and Development - Emerging with realistic ideas about how to implement one's psychological knowledge, skills, and values in occupational pursuits.

The Psychology Learning Community at JMU

We have been running JMU's Psychology Learning Community (PLC) since 2002. Each year we recruit 18 - 20 entering freshmen who are interested in majoring in psychology. Our experience is advertised as a unique jumpstart to the psychology major that also enables us to create a small, liberal arts college experience within the context of a larger university. Our program began as part of a larger university-wide learning community initiative. However, rather than being driven by a particular set of university-wide learning outcomes, we were given latitude in proposing the specific goals for our program, and we quickly adopted Astin's (1993) 3-factor model of student success and the 10 APA goals as guiding frameworks to plan our initiative.

JMU's PLC is best labeled as a curriclar-based learning community that follows a *linked* or *clustered courses* approach. Over their freshmen year, we enroll students into three psychology courses that are only open to PLC students. In the Fall, students complete Orientation to Psychology and the Major which introduces students to the diversity of fields and careers in psychology and to the unique opportunities of being a psychology major at JMU. Students also take Psychological Research Methods and Data Analyses (Part I) to begin important, pre-requisite training in methodology that we require for most of our other psychology courses. In the Spring, students enroll in Psychological Research Methods and Data Analyses (Part II) to complete their methodology training.

We intentionally selected these three courses to ensure that we could begin promoting students' growth and development on each of the 10 APA goals during their freshmen year. For example, our year-long, research methods and statistics coursework provides the opportunity to develop students' growth along numerous APA learning goals (specifically, Goals 2, 3, 4, 5, 6, & 7; see Table 1). Each semester involves having students enroll in a 4 credit, writing intensive course in which students are introduced to the research process and engage in a variety of independent research projects. Students read primary literature on topics that they choose, design original research studies, collect data, analyze the results, write complete, publishable quality APA journal articles, and give oral presentations on their findings.

We also structured our courses to facilitate and encourage greater student-faculty interaction, student-student interaction, and student time on task. Research methods and statistics are often regarded as the most challenging courses of our curriculum, and the learning community offers a unique environment to provide additional interventions to promote students' success. For example, in addition to taking courses together, JMU's learning community incorporates a residential component where students are assigned to a common residence hall. As a result, students can easily seek each other out and form study groups for additional assistance (promoting student-student interaction and time-on-task), and we hold office hours and exam review sessions in their residence hall (promoting student-faculty interaction and time-on-task).

Orientation to Psychology and the Major was designed to develop students' growth along the remaining APA learning goals (specifically, Goals 1, 8, 9, and 10; see Table 1). For example, over the course of the semester we invite 20-25 guest speakers to lead discussions on the major topic areas and professions within psychology. We ask guests to share their personal career paths and educational histories, offer examples of current research or practitioner projects that they are involved in, and outline strategies for how students can get more involved in that area of psychology. Our class meets once a week for a 2-hour block, and in a typical class period, students will interact with two different guests (each for a one-on-one, 45-60 minute visit). By the end of the semester, students have met the majority of the Psychology faculty through this unique format (further promoting student-faculty interaction). We also urge students to continue developing relationships and to pursue research and practicum projects with our guests. Other important personal and career development activities occur through a partnership we cultivated with JMU's Career and Academic Planning office. Each semester a representative of their office introduces students to different professional development activities, and then students are asked to complete two professional development activities as class assignments (e.g., taking psychological assessments to explore personal values/interests for a career, writing a resume/vita, identifying a summer internship, or attending a job fair).

Another important feature of our Orientation to Psychology and the Major course is to foster community building by engaging in ice-breakers and team building activities (especially in the beginning of the year) to promote student-student interaction. Over the past few years, we also started recruiting former PLC students to serve as peer mentors and teaching assistants to foster additional student-student interactions between freshmen and upperclassmen. Our peer mentors are instrumental in overseeing both academic aspects of our PLC courses as well as

coordinating additional out-of-class experiences (such as field trips, volunteering in the community, and social outings).

To determine the impact that our PLC is having, we compared the academic records for PLC students from our first 5 cohorts to non-PLC students who also decided to major in psychology during those same years (Barron, Buch, Andre, & Spaulding, 2010). We found that the first year GPA, cumulative GPA, and psychology GPA were all significantly higher for students starting out in the PLC than for our non-PLC students. We also found that PLC students engaged in a significantly greater number of directed study, independent study, and honors thesis projects than non-PLC students. We also documented that these differences occurred without any pre-existing differences in prior high school achievement or SAT scores between our two groups.

The Psychology Learning Community at UNC Charlotte

The PLC at Charlotte opened in 2003 and has since served eight cohorts of entering psychology majors. It is a non-residential, curricular-based learning community consisting of first and second semester courses and supported by many co-curricular experiences and opportunities for engagement. The PLC is designed to engage students with a small "community of learners" within a large department of over 1,000 majors while also engaging students with their larger campus and local communities. Like JMU, participation in our PLC is voluntary and students self-select in. While it is possible that learning communities may appeal to more capable or motivated students, comparisons between PLC and non-PLC students in terms of Predicted Grade Index (PGI), which is a predicted GPA index based on high school GPA and SAT scores, show no significant differences in the two groups. However, previously reported evidence (Buch & Spaulding, 2008; 2010), shows that after one year PLC students have significantly higher GPAs and retention than non-PLC students.

Because we began planning our PLC before the *APA Guidelines for the Undergraduate Psychology Major* (2007) were available, we did not explicitly incorporate their recommendations into the design of the PLC as they did at JMU. However, our department recently initiated an examination of our undergraduate curriculum in light of the *APA Guidelines for the Undergraduate Psychology Major*, and we recognized the potential of the PLC for supporting many of the learning goals and outcomes. We are also using the APA Guidelines as a way to improve our PLC by strengthening alignments between our learning community goals and outcomes and those in the *Guidelines*. This curricular revision process has resulted in a new emphasis on service-learning as the primary engagement vehicle for our PLC. As reported elsewhere in this e-book, service-learning is a recognized "pedagogy of engagement" that promotes students' civic, moral, ethical, and intellectual development (Oates & Leavitt, 2003).

We have explicitly incorporated service-learning into two of our core PLC courses. The first course is a freshman seminar for psychology majors developed for the PLC called the *Science and Practice of Psychology*, which is taught by the PLC coordinator. The course has evolved over time (see Buch & Spaulding, 2008a; Buch, 2008b) but each year has included a service-learning component that requires between 10 and 15 hours of community service throughout the semester as well as reflective writing assignments. During some years, we've allowed students to choose their own service sites and to work alone or in pairs. During other years, the PLC coordinator established service sites in advance and students chose a site that best matched their professional interests, working as a team with other students. Students complete their service hours outside of class and in-class discussions are used to process the experience and link it to what they are learning in their other PLC courses (General Psychology and a Liberal Studies course). Students are also asked to keep service journals and complete a graded, end-of-semester reflective paper on the experience and its relationship to their major and possible career paths.

The second-semester curriculum continues and expands the service-learning component of the PLC through a course called *Citizenship and Service Practicum*, which is also taught by the PLC coordinator. This course also has evolved over time, but it has always been offered as a "Writing Intensive and Oral Intensive" course involving a 35-hour service-learning requirement at a minimum. The writing and oral communications components of the class involve multiple forms of processing service experiences (reflective writing, multi-media presentations showcasing their service sites, discussion facilitator, and discussion participant) and making linkages to the course readings. Course readings cover themes related to personal growth and discovery, individualism and community, social justice and activism, prejudice and ethnocentrism, and values clarification. The most dynamic aspect of the course is the service component, which sometimes allows students to find their own sites, sometimes places students in teams at sites arranged

by the PLC coordinator, and sometimes includes on-campus projects such as Relay for Life.

As part of our recent curriculum revision process using the *APA Guidelines*, we have made additional changes to our service-learning component. We have chosen a unifying theme—Poverty and Homelessness—and partnered with a single service site that serves people dealing with these issues to provide service experiences for all PLC students for both semesters. Our partner is Urban Ministries (UM), a local inter-denominational center that offers a range of services to local homeless people, including community gardening, art gallery, choir, street soccer team, soup kitchen, and counseling. We have added readings on poverty and homelessness to the second-semester class, and explicitly link them to psychological theories and concepts through discussion and assignments.

Integrating the service-learning component of the PLC around a single theme that is naturally related to psychological theory and practice has had several advantages over our earlier approach. First, the service experience is more standardized which means that students have a more singular experience that enhances group discussions and common understanding. Second, having a single service partner makes site planning, managing, and assessment much easier and more rewarding for both faculty and site supervisors, and also enhances our control over quality and reliability of the service experience for students. Most relevant to this chapter, a single theme has also allowed us to more explicitly align our curricular materials and experiential learning activities with the APA learning goals and outcomes, as summarized in Table 2.

Table 2. APA goals and outcomes and examples* of how each is met in the PLC

Goal 1: Knowledge Base of Psychology	Readings and discussions of class differences and their sociocultural causes; Opportunities to observe and interact with individuals from different classes, races, and backgrounds
Learning Outcome 1.2: Individual differences and social processes, including those related to sociocultural and international dimensions	
Goal 4: Application of Psychology	Training and experience as "In-take" counselors at the service site
Learning Outcome 4.2: Identify appropriate applications of psychology in solving problems.	
Learning Outcome 4.3: Articulate how psychological principles can be used to explain social issues and inform policy.	Readings and discussions of multiple causes of poverty, including behaviors of the individual, allocation of human and social capital, exploitation, and political/economic structures
Learning outcome 4.4: Apply psychological concepts, theories, and research findings as they relate to everyday life.	Readings and discussions that tie psychology to their service work and a better understanding of clients, e.g., Maslow's need hierarchy, learned helplessness, bystander effect, diffusion of responsibility, prosocial behavior
Learning outcome 4.5: Recognize that ethically complex situations can develop in the application of psychological principles.	Students are asked to include ethical dilemmas experienced on-site in their service journals, which are also discussed in class. Examples include being asked for money by clients.
Goal 5: Values in Psychology	
Learning Outcome 5.4: Tolerate ambiguity and realize that psychological explanations are often complex and tentative.	Poverty Simulation, provided by the Multicultural Resource center where students role play the lives of people living in poverty
Learning Outcome 5.5: Recognize and respect human diversity.	Direct interaction with diverse individuals through service site experiences
Learning Outcome 5.6: Assess and justify their engagement with respect to civic, social, and global responsibilities.	Students discuss extent to which service is: a personal choice, a shared responsibility, a moral obligation, a societal necessity.
Goal 7: Communication Skills	Multiple forms of processing service experiences and linking them to readings, psychological concepts, and personal values, including service journals and reflective writing assignments on readings
Learning Outcome 7.1: Demonstrate effective writing skills in various formats for various purposes.	
Learning Outcome 7.2: Demonstrate effective oral communication skills in various formats and for various purposes.	Discussion facilitator and participant; formal multimedia presentation on service experience; assignment to hold a structured interview with a staff member or client from the service site
Learning Outcome 7.4: Demonstrate effective interpersonal communication skills.	Students rate their own effectiveness in communicating with their classmates, site supervisors, and clients.
Learning Outcome 7.5: Exhibit the ability to collaborate effectively.	Students working on the same project (e.g., gardening, soccer, art gallery) must plan and execute as a team
Goal 8: Sociocultural and International Awareness	
Learning Outcome 8.1: Interact effectively and sensitively with people of diverse abilities, backgrounds, and cultural perspectives.	Direct interaction with diverse individuals through service site experiences; Give and receive feedback with peers on appropriateness and sensitivity of interactions.
Learning Outcome 8.2: Examine the sociocultural and international contexts that influence individual differences.	"Could You Survive in Poverty?" exercise (Payne, DeVol, & Smith, 2006)

Learning Outcome 8.3: Explain how individual differences influence beliefs, values, and interactions with others and vice versa.	Discussion of class differences in norms, values, and assumptions (adapted from Payne, DeVol, & Smith, 2006)
Learning Outcome 8.4: Understand how privilege, power, and oppression may affect prejudice, discrimination, and inequity.	Poverty Simulation (described above), readings (e.g., MLK, Jr.), and discussions of class differences.
Learning Outcome 8.5: Recognize prejudicial attitudes and discriminatory behaviors that might exist in themselves and others.	Discussions that challenge common stereotypes of the homeless, e.g., that they are lazy. Writing assignment on how these have been dispelled by direct interactions with homeless individuals.
Goal 9: Personal Development	Readings from Dalai Lama and Martin Luther King, Jr. and popular readings on the benefits of service (e.g., helper's high) to those who serve
Learning Outcome 9.1: Reflect on their experiences and find meaning in them.	
Learning Outcome 9.5: Seek input from and experiences with diverse people to enhance the quality of solutions.	Group project on "How to End Poverty in Our Lifetime"
Goal 10: Career Planning and Development	Students select service activities based on their career interests; Journals and reflective writing assignments ask students to relate service experiences to their major and career choices
Learning Outcome 10.4: Identify and develop skills and experience relevant to achieving selected career goals.	

*More detailed information on assignments and grading rubrics available from the authors

Closing Comments

Even if you don't think that you can commit the time and resources to create a curricular-based learning community program on your campus, a review of the learning community literature appropriately challenges us to think about best practices in teaching. This idea was well articulated by Smith et al. (2004), who noted:

LCs embody an analysis of what is needed to reform higher education (curricular restructuring), a theory of learning (based on current research), a commitment to certain educational goals (putting student learning at the center of our work), and a commitment to the importance of community (a necessary condition for learning). They rest on the belief that we can improve student academic success if we design a more appropriate educational structure for addressing important intellectual and social issues, recognizing learning as a shared responsibility, and encourage active learning and community building. They create venues for synergistic activity to occur among people and ideas. (p. 22)

If you embark on the learning community's journey, we highly recommend the use of the two simple frameworks of student success that were introduced in this chapter to help guide how you set up and refine your approach, and we encourage you to look at additional writing (Barron et al., 2010; Buch & Spalding, 2008a, 2008b) for more detailed descriptions about our programs and the positive impact that they are having on our students.

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Civic Engagement Through Service Learning

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Considered an important pedagogy for encouraging civic responsibility, service-learning can offer experiential education for students by connecting class concepts with real life through service to the community. Emerging in the 1970's and becoming increasingly widespread in higher education, "service-learning is a teaching and learning strategy that integrates meaningful community service with instruction and reflection to enrich the learning experience, teach civic responsibility, and strengthen communities," ("What is Service-Learning," n.d., para 1). Different from volunteering, active learning of academic course content is a key component to the service-learning experience (Astin & Sax, 1998).

Faculty Role in Service-Learning

Faculty should clearly understand what service-learning is before embarking on course development. Commitment to the idea the class will enhance learning and "engage students in the civic life of their communities" (Baratian, Duffy, Franco, Hendricks & Renner, 2007, p. 17) is vital to the success of a service-learning course. From course development to cultivation of community partnerships, service-learning can be considered a unique educational tool, and faculty must acknowledge where adjustments in teaching will take place as students will be learning outside of the classroom, with much of that learning unidentified. Students engaged in service bring in new kinds of questions and real-world problems to discuss in class, making discussion come to the forefront as one of the more powerful learning approaches (Baratian et al., 2007).

Benefits for service-learning faculty are numerous and include reported increased satisfaction with student quality of learning and enriched quality of instruction (Eyler, Giles, Stenson, & Gray, 2001). Service-learning also affords faculty development opportunities and prospects for faculty research (Willis, 2002). McGoldrick & Ziegert (2002) found service-learning to accommodate varying learning styles, thereby increasing classroom diversity.

Promoting Civic Responsibility

Service-learning "when used with collaborative learning and problem-based learning, two other modes of active learning," (Ehrlich, 2000, para 13) can be a powerful means used to promote civic responsibility. Guided reflection allows students to discover how they feel about what they are learning, thinking and doing. Students are encouraged to explore the connection between their civic values, education and personal commitments (Ehrlich).

The Higher Education Research Institute (HERI) reported positive findings in 2006 from their ten-year longitudinal study on the effects of service-learning on post college civic engagement. "Unique positive effects of service-learning (over and above the effect of generic service) were associated with three post-college outcomes: civic leadership, charitable giving, and overall political engagement (Astin et al., 2006, p. 7).

Research advocates that service-learning also positively effects student "sense of personal efficacy, personal identity, spiritual growth, and moral development" (Eyler et al., 2001, p. 2) while encouraging collaboration, leadership and communication abilities. Service-learning also appears to have a constructive effect on accelerating cultural & racial tolerance while reducing stereotypes (Eyler).

Service-Learning in Psychology

"Psychology and service are about people," (Ozorak, 2003, para 7) which makes psychology a discipline well positioned to reap the benefits of service-learning. Student comprehension of psychological concepts like personality theory, learning, cognition, emotion, social psychology, memory, and others could be facilitated by students serving in the community and meeting real needs like helping at-risk youth, tutoring, assisting with childcare programs, helping the elderly, etc. (Ozorak, 2003).

The main difference between service-learning and the typical classroom experience involves the benefits of applied learning. In the classroom, faculty attempt to create this with examples from personal experience, instructor's manuals and ideas from colleagues. This often engages students on a rudimentary level when compared to a student making first-hand connections between an abstract concept and a concrete situation. This is the difference between familiarity with concepts, and proficiency and mastery of such.

Using and modifying David Kolb's (1984) framework for learning styles, one can capitalize on the affordances of the service learning pedagogical approach. Kolb specifies in his model four basic types of learning styles and how these may combine to form unique types of best opportunities for particular learners. Service learning advocates have adopted this model to show how various learners have benefitted from a service experience (Connors & Siefer, 2005).

While learning styles have held popular sway in education and psychology for several decades, there are some criticisms of this approach. Self-reports of a particular learning style may enhance a person's perception of material as more pleasing or accessible, but conveying material in a particular style does not necessarily lead to improved outcomes in terms of content mastery (Pashley, McDaniel, Rohrer & Bjork, 2009). For this reason, Kolb's model has been adapted and modified and is further clarified in this chapter.

A model of student engagement
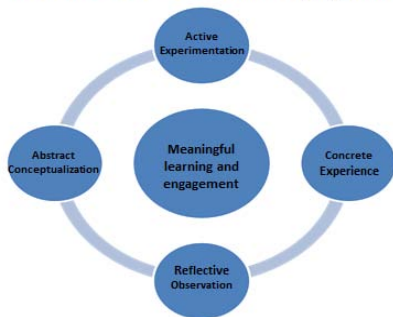
Figure 1. A Model of Student Engagement through Kolb's Styles as Process in Service Learning

Service learning challenges students on multiple levels in a manner that conventional classroom instruction does not. By providing students a forum to explore their environment via a reasonably safe, institutionally-constructed service experience, faculty can facilitate a student's ability to make meaningful connections between what sometimes may seem like arcane theories and definitions, to events that occur in their local community that may conversely seem of more immediate import. Through the concrete experience of service, students engage in active experimentation, application of abstract concepts and reflective thought to better understand the relevance of not only course material, but of being a part of an educated citizenry.

When undertaking a service project, there are a number of concrete elements for the learner. First, students are introduced to definitions, concepts, and models that require some degree of memorization. While it is a goal to move beyond that level of rote learning, it is generally an early step, from being able to label the lobes of the brain to being able to define measures of central tendency. The actual service is in some ways a similarly concrete experience. The student encounters real people in real time with life situations that require remediation or assistance with real consequences. This is no longer a classroom exercise on shaping, but a child with question, an elder in need of cognitive stimulation, or an infant seeking contact comfort.

In order to meet the needs of those with whom they work, students engage, whether they are aware of it or not, in active experimentation. They must analyze situations and test, through mental manipulations, the optimal courses of action. This process of analysis, decision, and commitment fosters the development of critical thinking skills. They do this under the guided direction of faculty and community mentors to ensure the safety of themselves and those they serve, but they nevertheless are prompted to engage in hypothetical deductive reasoning and are, in essence, probing their abilities for scientific thinking through experimentation. For example, students often initially make largely harmless missteps when working with a special needs child, such as patting the back of a child with autism without making appropriate contact first. They quickly learn that "what they know" may be limited to personal experience that does not apply across contexts; developing an appreciation not only for diversity, but also for learning, particularly of psychology course material.

Often during the service process, students are required to keep a journal, chronicling their experiences and how they make sense of them. In these journals, service-learners are expected to make connections between the discussions from class and the adventures they have encountered at their service agencies. Theoretical perspectives can often appear beyond the grasp of undergraduate students,

but the concrete application can sometimes accelerate understanding. This affords the student a tremendous opportunity to attempt to discern which theories are most appropriate to the day's events, and often come to the realization that it may actually be an eclectic blend that best helps explain what they faced. Reflective observation promotes a deep approach to learning, where "learners transform 'factual knowledge into usable knowledge'" (Bransford, Brown & Cocking, 2000, p.16) and it frequently brings students to the hoped-for conclusion that they received more than they gave during their service experience.

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Interdisciplinary International Service-Learning:
The Story of Our Success

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Alternative Breaks are popular service opportunities for college students during their regular spring, summer, and/or winter break from school. Since the early 1980's these types of trips have become more common. However, to date, little effort has been made to integrate the Alternative Break activities with curricular-based learning. In this paper we describe one way of infusing curricular service-learning into an existing and flourishing alternative break program without interrupting or interfering with the organization.

Historical Context of Service-Learning Pedagogy

According to Bringle and Hatcher (2009) service-learning is a powerful pedagogy through which students glean knowledge of course content through organized community service activities and mindful reflection. Since the 1990's a plethora of theoretical and practical writings detailing the benefits of service-learning in higher education have emerged. However, civic-oriented educational programming has been embedded within North American higher education since Boston Public Latin School was founded in 1635. Boyer (1994) observed that colonial institutions of higher education were formed and funded in order to meet the needs of a developing nation. The academy's main purpose was to train cobblers, tailors, statesmen, engineers, and mechanics. As the nation changed, so did the need for professional and technical specializations; and educated citizens to meet those specialized needs. Poly-technical institutes were formed to train engineers and agriculturalists to help build the infrastructure of the country. College programs in technology, manufacturing, and security grew following threats of war against America. The Morrill Land Grant acts provided funding for dozens of grant colleges across the nation. Most of these institutions attempted to blend the liberal arts with a practical and applied education. These early traditions suggest that forms of service-learning were central to the educational experience from the origins of higher education in North America.

Some have vocalized concern that modern-day higher education has begun to lose touch with its community roots and, as a result, may be facing a crisis threatening its survival (e.g., Lucas, 1998). However, the service-learning movement seems an attempt to reverse this trend. According to Howard (2003) "many signs point to the expansion of service-learning as an educational innovation in contemporary American schools and colleges" (p. 1). Organizations such as The National Campus Compact and prestigious peer-reviewed publications such as the *Michigan Journal of Community Service Learning* enhanced the visibility and scientific practice of service-learning. Cutting edge trends and practices are emerging that bolster service-learning's impact and appeal.

The Impact of Service-Learning

There are myriad investigations exploring the impact service-learning has on student participants (i.e., Astin, Sax, & Avalos, 1996). In his review of the literature, Howard (2004) reported that service-learning is related to students' acquisition of academic knowledge and skills; has a strong effect on students' personal development; and is associated with increased sense of social responsibility, greater feelings of connection with their communities, greater tolerance for diversity, and improved cognitive moral development.

The benefit to students is clear. However, at the turn of the 21st century, Cruz and Giles (2000) observed, in an article entitled, "Where's the Community in Community Service-Learning," that the "service-learning literature to date is almost devoid of research that looks at the community either as a dependent or independent variable" (p. 28). In fact, Eyler, Giles, and Gray (1999) conducted a comprehensive literature review and discovered only

8 studies that addressed community outcomes in service-learning. Jorge (2003), three years after Cruz and Giles issued their invitation, made the same observation, "To date, most attention has been directed to the impact of such programs on student learning; however, insufficient note has been made in the impact of this collaboration has on the community partners" (p. 30). A literature search conducted through various academic forums, general web-sites, and inquiries made to experts in the field suggested that this paucity of information still exists today (Howard, Personal Communication, February 4, 2010). Cruz and Giles' call for more pointed research has, for the most part, gone unanswered. The few studies that do exist detail the positive effects of service-learning to community members as well as to students (e.g., Reising, Allen, & Hall, 2006; Jorge, 2003).

International Service-Learning

In International Service Learning (ISL) students engage in curriculum-based service activities in an international context (Crabtree, 2008). Going beyond the demands of a study abroad experience, International Service-Learning also goes beyond academic tourism (Chisholm, 2003). We live in increasingly global communities and students who have international experience very often have a competitive advantage for jobs, graduate school placement, and enhanced international awareness. "Training students in their formative years to think globally and to work cross-culturally prepares them for the leadership we hope they will one day assume in addressing local and international problems" (p. 260). ISL seems to be gaining ground and becoming more popular. International Service-Learning maintains all of the benefits to students outlined above, and includes the tendency to reduce ethnocentrism (Borden, 2007). However, the impact of these projects on the international communities served is also not fully understood (Crabtree, 2008). International Service-Learning is but one of the exciting newer developments in service-learning. Interdisciplinary service-learning is also beginning to gain momentum.

Interdisciplinary Service-Learning

The Boyer Commission in 1998 recommended that universities engage in efforts to break disciplinary molds. Departmental confines and reward structures have discouraged young faculty interested in interdisciplinary teaching from engaging in it. Similar issues have hampered the development of interdisciplinary work in service-learning. Interdisciplinary service-learning is comprised of learners from different disciplines working closely together contributing their knowledge, skill set, and experience to support and enhance the outcome of the project (Connors, & Seifert, 2005). However, because of the challenges discussed above, interdisciplinary work in service-learning is a fledgling endeavor. In this paper we discuss an interdisciplinary international service-learning project that sought to assess community members' perceptions and opinions about the service projects being completed.

Interdisciplinary Service-Learning Model

Since March of 2003, Construction Management students and faculty from Southern Utah University have been traveling to Guaymas, Sonora Mexico building homes and doing construction work for needy families in the immediate area. The project started out with only one Construction Management major, the rest of the workforce consisted of students from across campus disciplines. The major project for the initial trip consisted of replacing an old sewer line that had collapsed in the street near "Club Jerry," a service club for young children in the Guaymas area. Because of the collapsed line the sewer was overflowing and running down the street, creating a health hazard for the children who attended the club after school. Eight inch polyvinyl chloride sewer pipe was donated by plumbing stores in the Cedar City, Utah area and hauled to Mexico for installation. Students hand dug a new sewer line and installed the donated pipe. The sewer line project was completed in March of 2004 when another group of students and faculty journeyed to Guyamas. During the 2004 trip the construction management students teamed up with an Alternative Spring Break group from SUU to work on other projects. One service venture consisted of repairing a home for a woman who suffered from epilepsy. Using skills they had learned in class, the Construction Management students surveyed the home and determined that it was in such poor condition it could not be repaired. At that point, the students devised a plan which would effectively meet the family's needs. Because of time constraints, the students were unable to construct an entire replacement home which was needed. They decided the best approach would be to erect walls around the home, then return in December 2004 to raze the existing home, install plumbing, cover the dirt floor with concrete, construct a roof, build interior walls, and do the finish work. While students gathered at the site and began work a neighbor across the street

came out and offered his cement mixer and other construction tools, a much appreciated gesture.

That was the beginning of a long lasting relationship between Larry Reints and SUU. Larry is a unique individual who helps all people. Larry is from the U.S. and has spent the past 24 years in Mexico. He assists neighbors with their homes, fixes their cars, bikes, and appliances and loans the occasional peso so a neighbor can buy propane to keep their cook stove operating. Curious about all the "Americanos" working in the neighborhood, he inquired as to our purpose. When he was informed of the service nature of the activity, he became committed to assist and support our students in any way he could. The owner of a modest home, Larry built a large addition to his domicile and freely offers the space to our students. When students come to stay he moves into his den and offers his four bedrooms, two kitchens, two living rooms, and six bathrooms to the students and professors for their convenience. He has almost single-handedly been the driving force to make sure students have a rich experience in Guaymas. He has been willing to seek out the neediest families for the students to serve, many of whom have been single parent mothers struggling to raise their families and provide a proper education for their children.

The students completed the home in December 2004. In addition to the actual construction of the home, the Construction Management students practiced leadership skills by directing the work efforts of other students from various disciplines and local volunteers. Two professors, their families, and other families from the United States also served as work crewmembers, which gave students the opportunity to direct the efforts of these individuals as well. Since the replacement of sewer pipes in 2003, a total of eight homes have been built and many other home repairs have been performed; greatly benefiting the families and individuals being served. Students work side by side with recipients, neighbors (especially youth), and church groups which enhances the cultural experience of not only the students, but the Mexican people they meet.

During the March 2010 trip to Guaymas, SUU Construction Management teamed up with Dome Technologies, a large industrial constructor of domes, to build the first residential domes in the Guaymas area. Dome Technologies recently built two large fertilizer storage containers in the Guaymas Harbor. Construction Management students had the opportunity of touring these two facilities during Christmas break 2009. After company officials became aware of the humanitarian services offered by the students in the Guaymas area, Dome Technologies volunteered to provide training, air

forms, and materials for the construction of four 20 foot diameter dome homes. This provided a wonderful opportunity for students to receive instruction from industry experts and sharpen their skills for successful construction leadership in the future. The domes were built by engineering students from ITSON University's local satellite campus in harmony with SUU students and local volunteers.

Assessing the Impact

The Guaymas service-learning projects have come to fruition through efforts of at least nine SUU professors from the areas of Consumer Science, Physical Education, CAD CAM Engineering, Psychology, Sociology, Science, and Construction Management. Many private donors and industry participants have been generous with their time and means. But the real credit lies with the students who give up their time during school to prepare for this experience and also offer their Christmas and spring breaks to make a difference in a Mexican family's life. Professor Boyd Fife, the supervising faculty member's overriding sentiment is that when the student is ready the teacher will appear. For many SUU students the teacher comes in the form of service learning as students serve the Mexican people.

While industrial organizations, civic leaders, and community members' responses to these service efforts have seemed universally positive, no systematic attempt has been made to ascertain the perception of the indigenous people regarding these projects. Cruz and Giles (2000) suggest that systematic research on the impact of service-learning on community partners is limited. To try and answer their question "Where is the community in community service-learning?" we set out to assess the impact of our service efforts on the community by conducting an outcome and impact assessment.

Theoretical Framework

The central outcome/impact assessed in this project is the possibility that our efforts benefitted a few (those who are living in the constructed homes) but created feelings of animosity, jealousy, and resentment from those who were not direct benefactors of the service work. The possibility that our efforts represented a hegemonistic, imperialistic approach serving to demean or devalue native culture or traditions did exist. We found psychological Social Dominance Theory (Sidanius & Pratto, 1999) to be a good explanatory foundation for this possibility.

Social Dominance Theory begins with the basic observation that human societies tend to be structured into group hierarchies comprised of dominant

hegemonic groups with higher status and subordinate groups with lower status. The dominant group enjoys a disproportionately large share of positive social value (political power, good and plentiful foods, nicer homes, adequate healthcare, wealth, high status, and fewer negative sanctions for illegal or immoral behavior), while those in the subordinate groups possess the lion's share of negative social value (low power, poor status, poverty, low status occupations, inadequate housing, and more negative sanctions for behaviors for illegal or amoral behavior) (Sidanius & Pratto, 1999). Stratification systems are established with certain characteristics (i.e., age, gender, race, nationality, etc.), or from arbitrary factors. Regardless of the source, the hierarchical structures tend to be relatively fixed throughout one's life span and promoted and maintained by the dominant group's ability to produce a sustainable economic surplus. In fact, these theorists state that "Human social systems are subject to the counterbalancing influence of hierarchy-enhancing forces, producing and maintaining ever higher levels of group-based social inequality, and hierarchy-attenuating forces, producing greater levels of group-based social inequality" (p. 38). They self-perpetuate.

It is not uncommon for members of a subordinate group to develop resentments and negative attitudes about members of the dominant groups, even when the motives of the dominant group might be non-oppressive in nature. Eze (2005) details the resentment many Africans expressed over the imperialistic and malicious motives of westernized "McDonald's cultures" contributing to the industrial development in that part of the world.

Research Methods

During spring semester 2009, SUU students and faculty from Psychology and Spanish teamed up with faculty and students from Construction Management, to design, administer, interpret, and analyze semi-structured interviews with 86 residents living near the homes that have been built. This assessment project was interdisciplinary, complex in design, and of an exploratory nature.

Undergraduate students in a Psychological Psychometrics course participated in the design and construction of the interview survey. Using ideas about social dominance and colonialization, one student took the lead and became the primary contact and logistical coordinator for the survey efforts. After interviewing several participants from past Mexico service trips and faculty from Construction Management who had also participated in the activities, reviewing some literature on Mexican politics and civic laws, and reading about Sonoran culture, the students wrote items for the surveys.

They constructed three separate, but related, interview protocols; one for individuals living in the homes that SUU students had constructed or repaired, one for individuals living in the community surrounding the homes that had been constructed, and one for people living outside the immediate neighborhood (civic officials, human service workers, bus drivers, etc.). The items were arranged so as to optimize honest responding should the participant or people known to the participant harbor negative feelings or opinions. Participants are first asked about their opinions of the student projects, then they are asked if the projects have created any types of problems in the area, then to allow for them to identify problems that may have been too threatening for them to admit to the following question asks whether they know of anyone in the area who may have negative feelings about the projects.

Once written the students conducted a pilot study with 25 participants who read each item and rated it for clarity and relevance. After some adjustments to the wording and sentence structure, the surveys were ready for translation into Spanish.

Students taking a Spanish Translation course took rough drafts of the surveys and translated them into Spanish. They corrected the survey for cultural and idiographic phrases and consulted with native speakers familiar with regional idioms and vernacular for verification. See Appendices A, B, & C for the final surveys. Once final preparations were made, the trip to Guaymas commenced.

Data Collection

Spanish-speaking Alternative Spring Break volunteers went door to door asking people if they could speak with them about their opinions about some things. Our initial efforts targeted people who lived in the homes that our students had constructed, and those who lived in the neighborhoods immediately adjacent to the homes. We conducted interviews at various times of the day and solicited volunteers at each home in the neighborhood. Once a person consented, we secured permission to audio-record their interview for later translation and tabulation. Upon ending the survey, we asked participants if they knew of others with whom we could speak and who might be home. Our thought was that if there were negative feelings, the snowball sampling method might enhance our chance of finding people with negative or unfavorable opinions. In snowball sampling, interviewers ask respondents if they know of neighbors who might be willing to participate in the survey. Once the neighborhoods in which the homes were located had been covered, we moved our efforts to people outside the immediate

area, including civic leaders, hotel managers, and bus patrons, using a convenience sampling approach. To avoid potential hospitality effects, we designed interview teams so that native Spanish speakers were distributed to most groups. The hospitality effect suggests that individuals might give socially desirable responses because they are being "hospitable" to foreigners. Research teams conducted the interviews on different days during the week and at varying times during the day.

Once the trip ended, students in the Spanish Translation course translated and transcribed completed interviews. The Introduction to Spanish Translation class is an upper level, three-credit course. During the spring semester of 2009 there were 23 students enrolled, two of whom went on the trip to Guaymas and carried out some of the interviews with community members. The interviews were recorded digitally, so students received, transcribed, and translated the interviews via computer. This format greatly enhanced the experience, as audio tapes pose challenges of their own.

Each class member transcribed an interview of one or more community members in Guaymas. These interviews lasted roughly five minutes each. After completing the transcriptions, students translated them from Spanish to English. The professor of the class transcribed and translated two additional interviews to use as examples. The remaining interviews, averaging three minutes each, were transcribed and translated by the student worker of the Hispanic Center for Academic Excellence, created to provide resources to Spanish-speaking students and members of the University and the wider community, as well as to enhance the scholastic experience and outcomes of English Language Learners.

The transcription/translation exercise proved different from the other assignments completed throughout the semester. It contained many interesting elements and, as it was a reflection of "real" life, students viewed it as a valuable experience. Translation typically involves the written word, and the fact that this assignment incorporated authentic oral language made it a unique exercise. Students dedicated several hours to the assignment outside of class. A completed transcription and translation of good quality was worth 10% of the final exam grade; the exam was worth 15% of the students' grade in the course.

Before setting to work, the class listened to two interviews while viewing transcriptions that the professor had prepared. They were then presented with the completed translations, which served as examples. The translations included a combination of literal, free and gist translation. Free translation, however, was used most frequently.

A free translation tends to be more natural sounding than a literal translation, while a gist translation is a condensed version of the message (Hervey, et al., 9-12). Literal and free translations helped to establish themes and patterns, while gist translations were helpful for tabulating the responses. Here is one example of each kind of translation, taken from the transcriptions and translations carried out by the professor:

Literal translation: *Pues yo no sabía.* Translation: "Well, I did not know."

Free translation: *Pues, mira, reconozco las materias o las carreras que están realizando y en base a qué carreras están desarrollando esa tesis o esa labor social y a beneficio de quie- de quienes o de cuáles personas porque si es una persona que económicamente... eh... cómo te puede decir... eh... solventada pues, no... no le demos esa ayuda. Pero si es una persona de escasos recursos que por una o otra manera... no puede hacer una casa que le proteja de algún mal tiempo, ahí, sí, estaría a favor.*

"Yes, well, look, I recognize that what you are doing is for the benefit of people who are economically disadvantaged. If someone who is lacking in resources needs help, I'm in favor [of helping him]."

Rather than transcribing superfluous and irrelevant responses, students were directed to do a gist translation such as this one:

"The volunteers begin to explain which houses were built by SUU volunteers. He [the man being interviewed] knows a North American citizen who lives in the area they are describing. They say he is a contact of theirs." (In a gist translation the student writes only the main idea, instead of transcribing information unrelated or overly specific.)

Transcribing spoken language always poses challenges. In the transcriptions carried out for this project, the wind drowned out voices, babies cried, some people spoke more clearly than others and, once in a while, the speakers used unfamiliar vocabulary. One example of a difficult term to translate was *elemento de tránsito*, which was translated, "a law enforcement officer."

There were many outcomes and/or benefits of using the interviews in a translation class. Students who already had some understanding of the many challenges involved in translation but who never guessed that a transcription could take longer than the translation itself had the opportunity to do both. All students felt a sense of accomplishment, both because they finished the process and because their finished products were completed to the best of their ability. Some deemed the process fun, while others

considered it too involved and time-consuming. It is our hope that projects like this will inspire students to take part in the construction project in Guaymas in future years.

Results

Of the 86 interviews conducted and recorded, 58 were of high enough quality to produce an interpretable transcription. Poor sound quality, excessive background noise, and poor verbal articulation rendered some interviews untranscribable. Once translated and transcribed, student researchers examined responses for themes consistent with Social Dominance theory. Their identified codes included 5 distinct emotional or experiential responses: In Favor, Feelings of Jealousy, Feelings of Resentment, Feelings of Oppression, or General Negative Feelings. Our plan was to conduct a mapped content analysis in which responses from participants within varying distances from the homes built were to be coded and analyzed separately. However, there was no variance in the responses we received. None of the transcribed interviews contained any of the anticipated Social Dominance themes. For example, responding to the items:

-What is your opinion about students coming from the US to build houses for people in Guaymas? One-hundred percent were in favor.

-Have these types of projects caused any type of problem in your neighborhood? One-hundred percent responded that they had caused no problems.

-Do you think people in the area would be in favor of students doing more of these types of projects? One-hundred percent responded in the affirmative.

-Have you, or anyone you know had any negative feelings about the students building homes for these people? One-hundred percent responded that neither themselves nor anyone else they know had negative feelings.

We found quite the opposite of what we had expected. While we had hoped people would be supportive and view our efforts favorably, we expected some to be negatively impacted, resentful/jealous, or put off by our students' work in the area. Quite the contrary, each respondent, whether from the immediate area or from some distance away, seemed genuinely content for their neighbors and friends who had been the benefactors of the service activities. Using the results of this project, the Construction Management department has secured additional donators for the construction of new homes, one upper administrator accompanied the contingent on the latest service trip (Spring 2010), and the university road map includes a requirement

for an international educational and/or service learning experience for each student prior to graduation. Additional plans are in the works to continue collecting data from indigenous residents of the communities where the homes are being built. Plans are in place to incorporate these efforts into course curriculum in sociology, psychology, and foreign languages. Feedback from respondents will guide the types of additional projects and service endeavors planned for future ventures to Guaymas.

Conclusion

In summary, people from Guaymas were benefitted from and supportive of the work our Alternative Break and Service-Learning students performed. In addition, we found a way to include other forms of service-learning to students beyond the traditional ways. The project served as a forum for hands-on learning for students in Spanish translation courses, psychometrics courses, sociology courses, and others. This is but one way that alternative break programs and other similar endeavors can become more infused with curricular learning. It was successful for us, and our hope is that it may provide a springboard of ideas for other campuses and programs as well.

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Appendix A

Interview Survey for People living in the homes constructed by SUU students in Guaymas, México

Preguntas para los que han tenido una casa construida para su familia

1. ¿Sabía usted que su casa fue construida por voluntarios que eran estudiantes de la Universidad del sur de Utah en los Estados Unidos? (Did you know your home was constructed by student volunteers from Southern Utah University in the United States?)

2. ¿Cuánto tiempo hace que Ud. vive en esta casa? (How long have you lived in your home?)

3. ¿Está bien construida la casa? (Is your home well constructed?)

4. ¿Ha experimentado algún problema con la casa? (Have you had any problems with your home?)

5. ¿Qué opina usted de que vengan estudiantes de los Estados Unidos para construir casas en Guaymas? (What is your opinion about students from the United States coming to build houses in Guaymas?)

6. ¿Qué opinan sus vecinos de que usted vive en una casa construida por los estudiantes? (How do your neighbors feel about you living in a house these students built?)

7. ¿Sabe usted de otros proyectos que los estudiantes han hecho en su vecindario? (Do you know of other projects the students have done in your neighborhood?)

8. ¿Qué opina usted de los servicios prestados por los estudiantes estadounidenses en la comunidad de Guaymas? (How do you feel about the volunteer work done by the American students in Guaymas?)

Appendix B

Survey for People Living in the Neighborhood Where Homes were Built

Preguntas para los que han tenido una casa construida en su vecindario

1. ¿Sabe usted que los estudiantes de la Universidad del sur de Utah trabajan como voluntarios construyendo casas en su vecindario? (Did you know that students from Southern Utah University do volunteer work building homes in your neighborhood?)

2. ¿Sabe usted cuáles son las casas que han construido? (Do you know which houses they have built?)

3. ¿Conoce a la gente que vive en esas casas? (Do you know the people living in those houses?)

4. ¿Cuál es su opinión de los estudiantes que vienen a Guaymas a construir estas casas? (How do you feel about having students who come to Guaymas to build these houses?)

5. ¿Estos proyectos han causado algún tipo de problema en su vecindario? (Have these projects caused any type of problems in your neighborhood?)

6. ¿Cree usted que la gente de su zona estaría a favor de que los estudiantes realizaran más proyectos de este tipo? (Do you think people in this area would be in favor of these students doing more of these types of projects?)

7. ¿Ha tenido usted, o ha tenido otra persona que usted conoce, sentimientos negativos hacia los estudiantes que construyen estas casas? (Have you or has anyone you know had any negative feelings about students building these houses for people?)

8. ¿Sabía usted que los estudiantes también trabajan voluntariamente en el orfanato? (Did you know that the students also do volunteer work in the orphanage?)

9. ¿Hay otros servicios que los estudiantes voluntarios podrían ofrecer a su vecindario para mejorarlo? (Are there other things the volunteer students could do in your neighborhood to improve it?)

Appendix C

Survey for People in the General Area

Preguntas para la comunidad en general
1. ¿Sabía usted que cada año estudiantes de los Estados Unidos visitan Guaymas para construir casas en esta comunidad? (Did you know that each year students from the United States visit Guaymas to build homes in the area?)
2. En su opinión, ¿estos proyectos benefician a la gente de Guaymas? (In your opinión, are these projects beneficial to the people of Guaymas?)
3. ¿Son útiles estos proyectos para la comunidad? (Are the projects useful to the community?)
4. ¿Hay problemas con estos proyectos? (Have these projects caused any problems?)
5. ¿Cómo se siente respecto a estos estudiantes estadounidenses que vienen a hacer estos proyectos en su pueblo? (How do you feel about having American students come and do these Projects in your town?)
6. ¿Conoce usted a alguien que viva en una de las casas construidas por los estudiantes? (Do you know anyone who lives in one of the homes the students have built?)
7. ¿Están bien construidas? (Are they well built?)
8. ¿Cómo se sienten otras personas respecto a estos proyectos? (How do other people feel about these projects?)
9. ¿Ha tenido usted o alguna persona que conozca sentimientos negativos hacía la construcción de las casas construidas por los estudiantes? (Have you or has anyone you know had negative feelings about having the students from America build these homes?)
10. ¿Sabía usted de que los estudiantes también ayudan en el orfanato _____? (Did you know that the students also help out in the orphanage?)
11. ¿Cree usted que es bueno que los estudiantes hagan estos proyectos? (Do you belive it is good that the students are doing these types of projects?)
12. ¿Sabe usted de otros proyectos que los estudiantes de la Universidad del sur de Utah han hecho en su barrio? (Do you know of other projects that the students from Southern Utah University have done in your town?

13. ¿Hay otros servicios que los estudiantes voluntarios podrían ofrecer a su barrio mientras estén aquí? (Are there other services the students could offer to your town while they are here?)

Appendix D

Demographic Information Sheet

General Information:
Inteviewer _____
Date _____
Time _____
General location of interview_____

Proiximity to Closest SUU Built Home
(Approximate) _____

Key Informant Information:
Sex   M   F
Approximate Age _____

Mood/Attitude (circle one)
Cooperative   Apathetic
    Dissmissive   Angry   Hostile

Recorder Folder _____

File Number _____

Notes:

Alumni in the Classroom (and Beyond)

Donna Stuber, Kristina R. Thielen, Jennifer Babitzke, and Bill Allan

Friends University

> *Student engagement is the product of motivation and active learning. It is a product rather than a sum because it will not occur if either element is missing.*
>
> — Elizabeth F. Barkley —

While many educators may be happy to see the tail end of a graduating class, it is those very educators that are depriving their future students of a treasure trove of experience that only the alumni perspective can provide. The American Psychological Association (APA) stated as part of its undergraduate psychology major guidelines that students will "emerge from the major with realistic ideas about how to implement their psychological knowledge, skills, and values in occupational pursuits in a variety of settings" (2007, pp. 9-10). It is theoretically possible that one instructor or even a group of instructors will approach fulfillment of this guideline, but it is infinitely more realistic to believe that allowing recent and even not-so-recent graduates to participate in the learning process will go farther toward the realization of a well-rounded psychology graduate.

Ahlfeldt, Mehta, and Sellnow (2005) stated that "Educating students in learning is one of the many goals that educators face" (p. 5). One way to reach this goal is through implementing techniques in the classroom that augment student engagement. Emotionally connected students exhibit strong internal motivation to be engaged in class, and believe that learning is limitless and that educators need to use varied approaches and classroom techniques to foster student engagement (Handelsman, Briggs, Sullivan, & Towler, 2005). According to Chambers (2010), "quality institutions" are those that fully engage their students in "meaningful educational outcomes" (p. 3). The main conundrum is discovering what constitutes meaningful experiences for students.

The National Survey of Student Engagement (NSSE) outlines five benchmarks of effective educational practice: level of academic challenge, active and collaborative learning, student-faculty interaction, high-impact practices, and supportive campus environments (2009). These benchmarks are variables that positively correlate with higher levels of student engagement. It is inappropriate to assume that college and university faculty and staff can bear the entire responsibility of implementing student engagement practices. It is here that institutions must become creative in finding ways to optimize student engagement through various resources. One such resource is the alumni branch of the university.

Historically, the benefits of cultivating a loyal group of psychology program alumni have been largely overlooked and definitely understated. Alumni can offer a wealth of support to the university through assisting students and faculty in a multitude of areas including educational goals, financial support, networking and communication, and publicity (Kopecek, 1980). Alumni are typically happy to offer support, but often feel they only hear from their alma maters when the institutions need money or donations (Zagoren, 1982). Rather, alumni could enter the mainstream workings of their former schools by offering their unique talents and services in meaningful ways, such as becoming educational resources that are connected in real-time to real occupations in the psychology field.

It is clear that student engagement is multidimensional and involves behavioral, social, and experiential elements (Handelsman et al., 2005). Alumni can fulfill several roles to assist their alma maters to meet these challenges, such as: networking and communication, student professional development, career and internship placement, and outcomes assessment.

Networking and Communication

Research indicates that peer and faculty interactions that contribute to a supportive sense of community and acceptance into the university have a positive influence upon student self-reports of engagement. In response to open-ended questions on the NSSE, several students expressed frustration with the level of attention, welcoming, and sense of community they experienced at their university (Chambers, 2010). Some students indicated, "It is hard to meet people on campus unless you are part of

a club." Another student expressed feeling like a "number" and not a "member" (p. 11).

Student-faculty interaction is another area that could use improvement. The NSSE (2009) study found that "forty percent of first-year students *never* discussed ideas from readings or classes with faculty members outside of class" (p. 11). This sense of confusion and frustration may lead to lower levels of student engagement. Schultz's (1944) Stranger Theory may account for this phenomenon, which explains the tendency of beginners to withdraw rather than engage when overwhelmed. If beginners feel too inundated with school and other outside responsibilities, they "soon show significantly reduced inclination to solve problems inventively (and) precisely at the time they most need to adapt to new situations" (DeLey as cited in Schuetz, 2008, pp. 319-320).

To address these problems, many universities have developed programs or activities that integrate alumni volunteer services to connect with students. Students can network or be paired with a graduate, who can eventually become mentor, or a friend to call on when needing advice or encouragement. For example, at Friends University, the psychology department requests that alumni attend the "Alumni Breakfast" which pairs past graduates with current students enrolled in one of its cornerstone courses. Twenty-five to thirty alumni meet with current undergraduates to begin the networking process, exchanging business cards, and developing relationships that will help students later on when applying for internships and future employment.

Membership in student organizations such as honor societies and student clubs is an important part of networking, and can lead to development of leadership and organizational skills, better relationships with faculty, and opportunities to network with guest speakers in their respective fields (McCannon as cited in Ferrari & Appleby, 2006). Psych Club or Psi Chi membership provides an intense learning experience and fosters the greater sense of community that students cite as important to their engagement in the learning process. While student involvement in psychology-related clubs should be the goal of every psychology department, obstacles to such participation are often present, and are difficult for faculty sponsors to overcome year after year. The use of alumni as co-sponsors and/or as advisors to a club, or as guest speakers can serve to distribute responsibilities over a broader group of individuals, as well as focus faculty efforts on activities and events that are more likely to aid in student engagement. Alumni can also assist with recruiting and retention of current students as

members in associations such as Psi Chi, psychology club, and other department related programs.

In the open-ended question portion of the NSSE, students commented that student life at their campus centered around on-campus or near-campus students, and not commuters (Chambers, 2010). Furthermore, transfer students either from community colleges or other four-year institutions participated less in high-impact activities, interacted less with faculty, and rated their satisfaction with the university lower than native students (NSSE, 2009). Non-traditional students may not simply have the time or the resources to attend or to develop rich involvement in departmental clubs or extracurricular organizations. It is vitally important to attend to the needs of every student regardless of his or her ability to be involved in these areas. Inviting successful alumni who are representative of student minority groups, non-traditional students, or transfer students can provide a critical link of communication to demonstrate that success is possible regardless of the challenges that students may face (Zagoren, 1982).

Another way to further the goal of reaching every student is by utilizing advanced interactive technologies such as email, web pages, social networking sites, and discussion boards. The NSSE (2009) found a positive correlation between interactive technologies at the university level and levels of student engagement. Students utilizing interactive technologies reported increased learning outcomes and also believed that these technologies fostered a more supportive campus environment. Alumni can be involved with this level of communication by acting as moderators on discussion boards, web pages, and social networking sites.

It is surprising to note that only 6% of students and 4% of faculty reported communicating with each other through social networking sites such as Facebook or MySpace (NSSE, 2009). This is an interesting finding since almost 94% of first-year students spent some time on social networking sites, with almost 60% spending one to five hours a week on these sites (Higher Education Research Institute [HERI], 2007). By capitalizing on alumni knowledge of interactive technology, universities can develop advanced communication systems between alumni, students, faculty, and staff. Having alumni embedded in communication and networking with undergraduates helps students achieve the goals of developing communication skills and personal development summarized by the APA Guidelines for the Undergraduate Psychology Major (2007). It also supports the benchmarks laid out by the NSSE of supporting collaborative learning, student-faculty interaction, and enhancing a supportive campus

environment. For example, the Friends University Psych Club/Psi Chi chapter has its own student group page on Facebook, with current students and alumni as followers of the page. This page is used as a tool for old and new members to communicate about educational and/or real world issues, as well as being a medium by which faculty sponsors can communicate with members and officers. Unexpectedly, the organizations' Facebook site has also become an excellent recruitment and marketing tool as area high school students have also joined.

Student Professional Development

One of the most influential variables in student engagement is that of classroom learning techniques and practices. Higher education institutions in the United States have created programs and curriculum designed to teach students motivational strategies for "directing and controlling their personal learning experiences" (Stallworth-Clark, Nolen, Warkentin, & Scott, 2000, p. 3). These strategies include techniques such as cooperative learning, problem-based learning, and high-impact practices.

Cooperative learning involves two or more students focused on task-related goals in an effort to help all individuals in the group to achieve success (Sherman, 1991). Alumni can serve as small group moderators, enhancing a sense of cooperative learning within the classroom. Since we know professors cannot listen to eight different conversations at one time, an alumni participant can provide that valuable link between the student and the instructor. Alumni can also offer assistance for psychology club activities outside of the classroom, enriching the established curriculum by moderating faculty debates, hosting film nights focusing on psychology related themes, and by donating their time to assist students on tours of mental health facilities (Satterfield & Abramson, 1998).

Problem-based learning (PBL) is another concept adopted to promote student engagement. Ahlfeldt et al. (2005) found there was a positive relationship between higher engagement and classes that utilized higher levels of PBL when compared to national engagement score averages. According to Hmelo-Silver (2004), a key component of a successful PBL outcome is developing a sense of intrinsic motivation in the student to solve problems. For an activity to be intrinsically motivating, students must experience interest, challenge, and a sense of satisfaction when achieving the goal of applying their knowledge to solve a real-world problem. Students work in small groups to focus on solving a problem with instructors or trained guides acting as "facilitators" to gently guide students through the learning process (Hmelo-Silver, 2004).

Alumni can assist educators in developing PBL in the classroom setting by serving as guest speakers or lecturers. Alumni, established in their respective psychology-related fields, may be the best sources for extracting real-world problems and up-to-date issues. They can bring these ideas into the classroom to allow debate, critical thinking discussions, and offer alternate viewpoints to students. Students can apply their current knowledge toward solving these dilemmas while learning to communicate effectively with professionals in the field about such issues.

At Friends University, the psychology department invites alumni to speak to psychology related classes and functions such as Junior Seminar, Applied Psychology, Psi Chi induction ceremonies, and various guest lecture opportunities. In Junior Seminar, alumni panels discuss possible career paths, the senior research project, the graduate school admission processes, and their individual successes in the field of psychology. Students enrolled in the online Junior Seminar class are required to choose and interview an alum from a list of alumni volunteers. In the Applied Psychology class, alumni who work in various applied fields (e.g., Industrial Psychology, School Psychology, the legal system, Social Work, Mental Health Counseling, etc.) demonstrate the application of psychology in their fields of work. These speaking engagements enlighten students at all levels, demonstrating the value and application of the psychology degree.

In addition to PBL and cooperative learning, there is a strong link between high-impact practices and higher levels of student engagement. High-impact practices are those which involve first-year students in community or service learning as part of a regular course, or seniors in (a) practicum, co-op, internship, or field experience, (b) research with a faculty member, (c) study abroad, (d) a culminating senior experience, or (e) service-learning (NSSE, 2009).

Over three-quarters of students who took senior seminar or capstone courses, including performing research, stated that the courses contributed substantially to their critical thinking skills, decision making skills, and intellectual curiosity (NSSE, 2009). However, students also expressed a desire for more opportunities to perform research, and current programs in place for undergraduate research need revision and enhancement (Chambers, 2010). Even students involved in Psi Chi exhibit low involvement with regard to presenting and publishing undergraduate research. Ferrari and Appleby (2006) found that 62% of alumni who were involved with Psi Chi during 2000 and 2003 conducted

undergraduate non-honor's thesis research. Yet, less than 25% of those students presented their work at a professional psychology conference, and less than 7% published their work in an undergraduate professional journal.

The value and importance of engaging undergraduates in the research process cannot be overstated (Stuber-McEwen & Thielen, 2008). By involving alumni who can attest to the benefits, challenges, and successes revolving around high-impact practices such as undergraduate research, students may be more inclined to pursue these activities. For example, the alumni from our department at Friends University often attend Psi Chi induction ceremonies and meetings to discuss the importance and need for research and ongoing scholarship. Our alumni have responded extremely well to these invitations, bringing with them unique and invaluable experience stemming from their own professional development and backgrounds.

Alumni may assist faculty in developing student involvement with undergraduate research by encouraging students to develop, analyze, and present their research projects, and share their own experiences with the research process. Alumni can help in furthering research goals by acting as constructive critics, pointing out weaknesses in the research and identifying areas of exploration for further research in the current field of psychology.

Utilizing alumni as guest speakers and lecturers enriches the curriculum involving students in more active, cooperative, and problem-based learning techniques than may be seen in a traditional learning environment. This enrichment supports the requirements outlined by the APA Guidelines for the Undergraduate Psychology Major (2007). These enriching activities assist instructors in imparting familiarity with the major concepts, theories, and historical progress in psychology. Students become engaged in class discussions involving alumni guest speakers, thus promoting their own critical thinking skills, enhancing their understanding of the application of psychology to real-world situations and current jobs, developing ethics, cultivating communication skills, increasing an awareness of socio-cultural and international issues, and polishing their personal development.

Career and Internship Placement

Career development is another area in which alumni are an invaluable resource. Students responding to NSSE expressed their frustration with the lack of services offered by their university to address questions concerning career plans or further academic development. Furthermore, students expressed a sense of bewilderment or confusion after graduation, because they felt their universities did not offer proper guidance into the next phase of their lives (Chambers, 2010).

Alumni surveys conducted at various institutions garnered similar results. Ogletree (1998) found that alumni felt the area of career and future education goal planning needed to provide more and earlier preparation or guidance in these areas. However, the NSSE (2009) surveys also reported that students who frequently discussed their career plans with faculty or advisors were more satisfied with their university's ability to assist them in career planning. Unfortunately, one in seven students *never* discussed career plans with faculty or advisors.

"Students majoring in English, psychology, or French may find it difficult to identify career opportunities…. [Students] may need assistance in translating a liberal arts education into marketable skills for the working world" (Zagoren, 1982, p. 14). This is not news to most psychology instructors, and many steps have been taken to ensure that students have an idea of the myriad directions a degree in psychology can take them. And while course upon course has been developed to attempt to inform students of their options, the intricacies and almost limitless opportunities for application of undergraduate psychology degrees make this a daunting task.

Alumni can help to fill this "gap" between the student and the resources available to him or her in the realm of career or internship placement. Alumni can provide advisory services to enhance career planning and offer guidance services through career counseling, seminars and workshops, alumni and student matching programs, and establishing a career research library for students. Seminars and workshops may cover topics such as resume preparation, career planning, interviewing techniques, networking, personal and employer evaluations, and self-marketing. The alumni and student matching programs couple students who are interested in certain career paths in psychology with alumni established in that field. The student may spend time at the alumnus' place of work as observers, converse with alumni over the phone discussing career interests, or gain internship or employment at the alumnus' place of work (Webb, 1989). These connections can develop into lasting mentor relationships.

Panel discussions with quality alumni who have achieved success in their field also benefit students. These alumni panels discuss their jobs, career paths, necessary training, current opportunities in the field, and undergraduate courses that may be helpful for students' future career goals (Zagoren, 1982).

Internship programs are also a significant area where alumni connections become paramount. Alumni often live and work in the community at agencies that can sponsor interns, guiding undergraduates in real-world experiences that complement their professional and personal growth. Kuh and Gonyea (2006) reported a positive relationship between community-based learning as part of the coursework and student reports of deep learning and personal-social development. Furthermore, a positive correlation was identified between interactions with diversified peer groups and student reports of deep learning. Internship opportunities make the possibility of exploring these important variables available to students.

Gathering alumni to provide this important link between the business world and the university may be easier than expected. Friends University's Psychology Department has accumulated over 150 alumni over the past thirty years who actively serve as mentors and professional connections for current undergraduate students in and around the Sedgwick County, Kansas area, as well as many outside of the county. These graduates now hold jobs in the psychology professions, and in several cases have supervisory positions. Many even have some hiring capacity, which opens the door to job opportunities for new graduates.

Regardless of whether alumni act as advocates for students to apply for specific jobs or internships, or merely offer guidance in the realms of career or further education planning, these services help students to attain the tenth goal of the APA Guidelines for the Undergraduate Psychology Major (2007). This goal states that students should attain "realistic ideas of how to apply their psychological knowledge, skills, and values in occupational pursuits in a variety of settings that meet personal goals and societal needs" (p. 21). By involving alumni, institutions can "offer career assistance programs that enable alumni to serve students, their alma mater, and themselves" (Zagoren, 1982, p.2). The relationship between alumni and alma mater, therefore, becomes a rich and reciprocal connection that will continue long after the student has graduated.

Outcomes Assessment

Alumni reflections, evaluations, and constructive criticisms can be valuable tools used to improve the psychology program and many institutions use these opportunities to consistently improve their programs. Due to alumni responses on surveys conducted by Southwest Texas State University, the psychology department implemented a focus on career and future

education planning programs to facilitate more accessibility to students who need guidance in these areas (Ogletree, 1998).

Through alumni surveys, the University of Minnesota discovered that although their students had positive feelings toward the university, they still felt a sense of disengagement from the institution (Webb, 1989). In response to this finding, the university found ways to give students a sense of community, focusing particularly on students who commute to the college.

The psychology department at Friends University invites a different group of five alumni each year to visit with current undergraduate students, adjunct faculty, full-time faculty, and administration to formulate an evaluation of the quality of the department. This "Alumni Visitation Team" maintains two participants from the previous year to bring about continuity. During their site visit, the Team meets with psychology majors, full and part-time faculty, and top university officials. During lunch, the Team also meets with the Alumni Director. At the end of their visit the Team submits its report. The main goal of this exercise is to assist the department in knowing if it is equipping their students with knowledge and skills applicable to the job market, graduate school, or further academic training. These site visitation teams have been invaluable in our five-year survey and outcomes assessment for the University.

Landrum and Elison-Bowers (2009) conducted research among alumni through several institutions including Arcadia University, Belmont University, Boise State University, Clemson University, Emporia State University, John Brown University, and the University of San Diego, asking for opinions related to their undergraduate experience while obtaining a psychology baccalaureate degree. Findings from these surveys helped universities determine areas of success and those that need improvement related to the undergraduate experience. Interesting findings from this study indicated that older alumni viewed their psychology courses as being more applicable to their careers than younger alumni, and alumni who have obtained master's degrees agreed more than those with bachelor's or doctoral degrees that their undergraduate course-work prepared them for the job market. By providing their unique insight, alumni can feel that they have contributed to the continued development of their alma mater, and faculty can gain worthwhile insight from a student's perspective on the effectiveness of department goals.

With the multitude of ways alumni can help universities, it is imperative that colleges and departments work to develop and maintain alumni relationships. Webb (1989) holds that alumni who

support the university through volunteer work or financial donation must feel appreciated by their alma mater to continue a positive relationship with the institution. Making sure alumni are adequately trained for volunteer work, receiving up-to-date materials, securing consistent and clear feedback, and earning recognition of their efforts both on and off campus are crucial for maintaining positive relationships between alumni and the university.

The formula for encouraging student engagement in the educational process is an ever-evolving puzzle encompassing almost every facet of college life. Alumni are often the forgotten piece of that puzzle, and can prove to be valuable members of the instructional team through carefully orchestrated interactions and mentorships with current students. This generally underutilized well of experience can serve to assist in reaching students that may otherwise remain unconnected to the rich and full experience that is baccalaureate education. Use of alumni resources, especially in the areas of networking and communication, student professional development, career and internship placement, and outcomes assessment, can only serve to enhance an institutional environment and provide for a more satisfied and diversified psychology major.

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Section 3. Programs that Promote Student Engagement II

Bernard C. Beins, Editor

Building the Case for Engagement in Honors College Programs

Chrisanne Christensen

Southern Arkansas University

Students enrolled in undergraduate Honors College programs represent a distinct group when compared to traditional undergraduate college students. Applicants to the Southern Arkansas University (SAU) honors programs must distinguish themselves by scoring higher than average on a traditional ACT exam (>26) and demonstrate writing competency with an admissions essay. Because the emphasis on superior grades is the major factor for graduation with honors at SAU, many honors students do not participate in, and may be actively disengaged, with activities that increase civic and community engagement. They perceive these activities as counterproductive to the rigors of maintaining a high grade point average (GPA) and, although they report expectations of leadership positions, these students miss engagement opportunities that could increase understanding of others without the privilege they enjoy. Unfortunately, comparatively little research has been conducted on standard admissions criteria to honors colleges and even less on student engagement as an important component of an honors education.

It has been my experience that faculty who teach honors courses have different expectations about honors students. Fellow faculty have related to me that they imagine highly motivated individuals and design curriculum that utilizes pedagogy focused on small class size, critical thinking, and personal attention. Such is the case with Honors College faculty at Southern Arkansas. Faculty have collaborated with many honors students, co-authored publications and presentations, edited advanced creative writing projects, and organized community focused research and service. As a faculty member with multiple years of experience teaching honors courses, my assumptions about the focused dedication of these students changed during one pivotal moment early in the second class. In this chapter, I will describe the evolution of a new curriculum in honors general psychology. I will also share the unfavorable aspects associated with this type of course design.

Honors College Students

The honors student's personality has been described as perfectionistic (Parker & Adkins, 1995; Neumeister, 2004) and more autonomous (Gottsdanker, 1968; Palmer & Wohl, 1972). Many have already made plans for graduate education (Randall, Salzwedel, Cribbs, & Sedlack, 1990), and have personality types that differ from other college students (Randall & Copeland, 1986-1987). Honors students often expect to assume positions as leaders in their chosen field, assuming responsibilities for teams or specialized groups. However, in classroom settings, team work assignments are met with apprehension as many of these students prefer the individual responsibility for their grade (Gottsdanker, 1968; Palmer & Wohl, 1972). Although students in my classes are adept at the concrete tasks of education such as test taking, reading, and writing, they resist ambiguous situations and lacked experience in collaborations with others outside of their privilege. Bain and Zimmerman (2009) describe students that are overly focused on the concrete task of education as "strategic learners" that may insist on replicating what has worked for them in the past such as rote memorization and surface knowledge and processes. These "strategic learners" are intensely determined to succeed, and this determination leads many to conclude that their educational goals and needs are met best only through traditional academic tasks (Bain & Zimmerman, 2009).

During the last several years, I have observed this concrete approach to education and believe these students are not yet aware of the need to build a different skill set incorporating collaboration, empathy and flexibility. Such a skill set is necessary for assuming leadership positions, as they plan to do. Understandably, their previous experiences in learning have been rewarded with a coveted scholarship, better campus accommodations, and access to other career building activities. However, such a superficial learning style partnered with concrete thinking has minimal impact on deeper

learning and minimal influence on the personal lives or understanding of others (Bain & Zimmerman, 2006). This is a particular deficit for understanding human behavior. Further, I have discovered that many begin general psychology courses misunderstanding the relevance of psychology to their chosen career path. Because most of my students lack experience with groups outside their own privilege, many need opportunities to build skills of emotional intelligence or EQ. Goleman (1995) describes EQ as "determining our potential for learning the practical skills that are based on five elements: self-awareness, motivation, self-regulation, empathy, and adeptness in relationships" (p. 30). Goleman (2003) noted that the concept of EQ is much more important than IQ for job performance and establishing oneself as a leader, and that EQ determines our potential for learning practical skills. Rendón (2003) adds to this assertion explaining that "Education should help us turn inward as we learn to appreciate who we are and develop philosophical orientation to engage in work and life" (p. 30).

Engagement and Honors College

The newly designed curriculum incorporated pedagogies that addressed student disengagement such as inquiry-guided learning (Atkinson and Hunt, 2008) and community engagement, all linked consistently to our text. Inquiry-guided learning (IGL) emphasizes active investigation and knowledge construction rather than passive memorization of content (Slatta and Atkinson, 2007). In this general psychology course, the intersection of inquiry-guided learning and community focused activities is referred to as engaged pedagogy. Although this type of pedagogy can be complicated by the necessity of frontloading activities with community and campus partners, it is an ideal method for raising EQ, inspiring empathy and, building social awareness. From a programmatic perspective, two similar philosophies- the National Collegiate Honors Council (NCHC) and the American Psychological Association (APA)–provide some foundation for incorporating engagement into traditional honors education. The NCHC Values Statement "recognizes the importance of life-long learning and social responsibility in preparing individuals for an increasingly complex world" (NCHC, 2010, What Is Honors? para.1). The APA recognizes civic engagement as "individual and collective actions designed to identify and address issues of public concern". The APA definition incorporates a variety of activities that constitute engagement as "efforts to directly address an issue, work with others in a community to solve a problem or interact with the

institutions of representative democracy" (APA, 2010, Civic Engagement, para.1).

There exists an excellent opportunity to simultaneously define an honors college experience as more than a traditional, concrete academic enterprise. Incorporating engagement pedagogy in honors courses will prepare students for leadership, develop creative and critical thinking skills, and address EQ deficits.

Southern Arkansas University Honors College and Student Characteristics

Honors Programs are academic units established to meet the needs of gifted students (Rinn, 2005). The National Collegiate Honors Council (NCHC) lists 848 institutional members. Of those, only a very small number (<100) meet the NCHC's criteria for a "fully developed honors college" (HCHC, 2010).

Southern Arkansas University established an HC program in 2003, and is still considered a new program at the university. It is not a fully developed honors program and has no specific faculty lines dedicated to teaching honors courses. Enrollment has increased from 24 to slightly over 100 students. Admission to the honors program requires an ACT score of 26 or higher, GPA of 3.5 or better and a brief interest essay. Experiences with community service or volunteer history are not solicited. To graduate from Honors College, students must maintain a 3.25 minimum GPA and successfully complete 24 hours of honors courses, 9 to 18 hours taken in freshman or sophomore level. No community experience or volunteer service is required.

The Wake-up Call

As a faculty member who has taught honors for the last five years, I have observed that honors students often sidestep extracurricular opportunities when they do not perceive self-efficacy. This means they often do not believe they will succeed in situations that present ambiguous, non-concrete circumstances such as working with community partners or others outside of Honors College. This negative perception of success is in direct contrast to their high self-efficacy about concrete tasks identified earlier, and many protest that additional outside class activities, like service or community based research, will negatively affect their grade. Some honors students have simply refused to work with or acknowledge the importance of working with others outside of Honors College, a striking example of privilege. I have observed that many honors students are not risk takers, and because of this, they limit

themselves to traditional academic pursuits, perceiving other opportunities as potentially negative to their GPA. Although I routinely use inquiry-guided learning and engagement activities in other classes, I had concerns about doing so in general psychology. My singular focus of teaching the foundations of psychology changed with one poignant classroom experience.

Social Issues Exercise

During my second semester teaching honors general psychology, I began a chapter discussion with a simple exercise in social awareness linked to the text. Requiring students to work together in small groups, they identified ten important, contemporary, global social issues. Several class periods later, we met to discuss the lists. I had planned for a spirited discussion about significant global concerns; however students identified issues centered on their immediate, personal world.

Items on the composite list varied widely and included music downloading as the prominent social issue. As a side note, some issues were similar to those in the midst of adolescent egocentric development. And, although many of these honors students are adolescents with limited experience outside of the region, their answers were frustrating nonetheless.

That day, during our discussion, students were unable to listen or respond respectfully to international students who raised concerns relevant to their country of origin. Further, many students complained that they didn't understand how a discussion about social issues was related to the social psychology chapter and upcoming test. They insisted that larger global issues such as poverty or homelessness were of no concern to them, especially if we discussed another country besides the United States. The experience propelled me into action, and I began to reorient my curriculum with activities that purposefully challenged my student's disengagement, forcing them to reconcile their "strategic learner" paradigm and build on the concepts of emotional intelligence.

Also, during this time, I reviewed the literature linking honors college teaching and engagement. I discovered one article (Albers, 2009) describing similar misconceptions about classroom environment, student frustration with ambiguous situations and, the mixed results of her sociology class. Also, I reviewed a continuation of good advice from an article analysis by Bain and Zimmerman (2009) "Human beings are most likely to learn deeply when they are trying to solve problems or answer questions that they have come to regard as important, intriguing, or beautiful"

(pg. 11). The article further outlines the necessity of productive discomfort when pursuing questions or problems, and challenging students current paradigm of problem solving.

My objective was to manage the intersections between teaching the foundations of psychology essential in an introductory course, provide opportunities for students to collaborate with others outside their privilege and raise EQ. I was determined to confront the recently discovered "strategic learner" paradigm while integrating new engagement activities.

Progression of Engagement Curriculum

This new curriculum required students to engage with unfamiliar environments, participate in inquiry groups, and apply that experience to class discussions. Topics were obviously linked in the syllabus and incorporated campus or community based research or service. Each project was completed within the semester, a challenge with an already packed chapter/reading schedule.

At the beginning, I carefully chose topics that were straightforward and manageable as in-class activities. For example, early in the semester students practiced surveying each other about Type A personality using an instrument in our text (Nevid, Rathus, & Greene, 2006). Throughout the semester, this exercise was linked to reinforce topics such as research methods, stress, personality theory, and cognition. Later that semester, they surveyed other honors students bringing completed surveys to class where we compiled the data, presented results and discussed their experiences as researchers. As my experience with these students expanded, I added more complicated activities including peer to peer mentoring, evaluations of campus programs about recycling, campus safety, and crisis support. Students also participated in service opportunities with a local food bank and were matched with peers in upper level classes for department wide semester projects.

Cross-class Collaboration
Semester Project

Perhaps the most complicated engagement activity was linked to the issue of domestic violence, a topic appropriate for developing empathy and enhancing social awareness and community collaborations. I planned to match honors college students with upper level psychology students in a collaborative, mentoring style relationship, providing opportunities to increase adeptness of relationships. To achieve these goals, I recruited student mentors

from the advanced level Social Psychology class and constructed a plan that incorporated basic research experiences and peer-to-peer mentoring that culminated in a campus-wide demonstration project. Additionally, I invited a faculty member with expertise in survey research to talk with the students and reinforced the discussion with text content about research methods.

Honor students were provided two research group topic options: campus safety or dating violence. The campus safety group determined unsafe campus locations as defined by poor lighting and the need for safe phones. This group explored the campus, observed student traffic patterns, and authored a report with an enhanced campus map suggesting improvements in campus safety. Findings were presented at a student government meeting and during a campus wide event where honors students displayed the enhanced map and collected petition signatures requesting campus safe phones.

The second group shadowed the advanced level students while conducting survey research about dating violence. In order to qualify for this group, honors students attended a survey workshop organized by another faculty member and the social psychology students. Honors students shadowed the social psychology students conducting the survey and provided approved referral information from the campus counseling center. Later they observed the social psychology students enter data and formalize results of the survey. In class, both group topics were repeatedly linked with text material and discussion. All honors students were required to submit reflective writing assignments about their semester long experiences

Both honors projects were included in a campus wide event that vividly illustrated the results of domestic violence while also highlighting student engagement activities. The major event, planned jointly with the social psychology class, included a traveling exhibit of memorial t-shirts honoring women and children murdered in domestic violence situations. The Clothesline Project, a national campaign sponsored by the Arkansas Coalition Against Domestic Violence, has provided the materials for this exhibit for the last several years. Students from both classes worked together to organize the exhibit and acted as hosts for local agencies and those walking through the display. Setting-up the exhibits and introducing students to community members provided multiple opportunities to observe student self-awareness and adeptness of relationships especially when others visited the display.

Several days after the main project event, the social psychology students spoke with the honors students about their experiences. Although the subject of domestic violence was not the main focus for honors students as it was for the social psychology students, honors students commented about their occasionally erroneous and preconceived notions about this subject. They expressed a newfound empathy about domestic violence victims and an understanding of the intricacies of campus safety because of their involvement in the research groups. Honors students also commented positively about opportunities to work with advanced level peers but were frustrated that they could not automatically take a leadership role. They were amazed by the organizational skills and collaboration necessary to complete all of the projects, especially with others outside of their traditional groups. Some students were frustrated that they were required to participate in additional assignments and made their frustrations known clearly in teaching evaluations. Several commented that solving problems was not related to a psychology class and that domestic violence and campus safety was not appropriate topics. Many students commented that they were appreciative of the opportunity to participate in the major event and conduct campus based research. Others were surprised that they enjoyed the assignment and enrolled in other psychology courses the next semester.

Recommendations and Considerations

The examples in this paper exemplified opportunities for enhanced EQ of self-awareness, motivation, self-regulation, empathy, and adeptness in relationships through engagement activities. And, as I alluded to at the beginning of the paper, unfavorable aspects to this type of teaching exist. For example, engagement pedagogy requires significant frontloading. It was necessary to organize community partnerships, recruit students to act as peer mentors, and coordinate with the campus police and counseling center several months before the semester. Semester evaluations in honors general psychology have been lower than in other courses. Student comments have consistently demonstrated a high level of frustration with the requirement of engagement activities and concerns about outside activities negatively effecting grades. Conversely, many students also remark positively about the opportunities to work with more experienced peers. In later courses, I addressed issues about grades by incorporating smaller concrete assignments that provided faster feedback such as homework sheets or mini-writing assignments.

Professionally, other unfavorable aspects included the misperception by a few faculty that

much of the engagement activity was not of a scholarly or rigorous nature. To circumvent this misunderstanding I took extra time to communicate my research about EQ and shared concerns about student development. Many of those faculty attended the campus wide event and became collaborators in other projects. Throughout the project I was encouraged and supported by the HC Director. We shared similar educational philosophies and she assisted in answering questions from other faculty and attended the event.

Recently, a new HC Director was appointed and a different philosophy of honors education has emerged. That new philosophy is counterintuitive to my goal of engagement and focuses more on grade achievement and traditional teaching methodologies. Regardless, attaining the balance--between the design of engagement curriculum and the foundations of teaching general psychology was a welcome professional challenge. Ultimately, honors students need the opportunity to develop additional skills as defined by the concepts of EQ and engagement. Challenging their sometimes myopic identity with engagement pedagogy requires them to view the larger world, explore the ideas inherent in intellectual dissonance and toggle between the students they are now and the professionals they hope to be.

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Structuring the Capstone Experience in Psychology

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The definition of a capstone is the top and last stone placed in a structure, as in an arch. It often means a culmination of, or final change in an endeavor. In academia, a capstone usually refers to a course or project that integrates or synthesizes the knowledge and experience learned during a student's academic career and concludes with a finishing experience that will allow them to think and act like an academic psychologist. In their survey of 500 college programs, Perlman and McCann (1999) found that 63 percent of psychology departments required that students complete a capstone course and while there are many definitions of the capstone experience, the most common types of capstone courses reported in their survey were senior seminars (32%), history and systems courses (23%), field experiences (13%), and research projects (5%).

West Virginia University describes a capstone experience as "intended to provide the psychology student with an intensive exploration into an aspect (e.g., teaching, service, research) and an area (e.g., experimental, developmental, clinical) of psychology as a means for enhancing learning and unifying the knowledge and experience acquired as a psychology major."(See: http://psychology.wvu.edu/future studen ts/undergraduateprogramsorganizations/majoringin psychology).

In their survey of psychology departments in the Western United States, Hauhart and Grahe (2010) found the most common purposes given for requiring students to complete a capstone course were so that the students could review and integrate learned material (96%), extend and apply what they had learned (87%), integrate theoretical work across the field (65%), become better consumers of knowledge (57%), provide a bridge to graduate study (52%), and foster a pragmatic orientation towards the discipline (48%). Additional purposes included socializing the students as educated (30%), and more active (26%) citizens. In addition to these goals, Wagener (1993) suggested that a good capstone experience in psychology is multifaceted and can include (a) synthesizing and integrating the varied sub-disciplines in psychology, (b) broadening and critiquing the scope of the discipline, (c) reviewing the main theories in the discipline, (d) applying psychological theories and findings to particular problems or situations, (e) exploring in greater depth, topics initially introduced in the beginning course, (f) connecting psychological knowledge to topics covered in the general education curriculum, (g) comparing and contrasting what we know as psychologists with what other disciplines know about specific topics, and (h) using a psychological perspective to examine and critique values and lifestyle options. The purpose of this chapter is to briefly outline the learning objectives that are generally associated with the capstone experience, describe a number of different approaches to the capstone experience in psychology, and relate the capstone experience to assessment.

Learning Objectives/Goals

The goals in nearly all capstone experiences are to have students develop the skills to go beyond the ability to simply summarize and evaluate the information they have learned. Most capstone experiences will encourage critical thinking that demonstrates the student's ability to integrate and synthesize the material and, in many cases, formulate a project that illustrates this understanding.

Capstone experiences refer to a number of different approaches. Dunn and McCarthy (2010) describe the four primary established capstone experiences in psychology. These include (a) history and systems classes, (b) honors or independent studies courses, (c) internships, and (d) senior seminars or integrative experiences. They also describe the eight common goals for psychology majors grounded in a liberal education as established by McGovern, Furumoto, Halpern, Kimble and McKeachie (1991) but they discuss them in terms of how they apply to capstone courses. In contrast to the list by Wagener that described a set of outcomes related to the breadth and depth of a student's understanding of the discipline, the goals listed by Dunn and McCarthy (2010) are mostly about the skills needed for an educated person. These skills include (a) critical thinking, (b) scientific writing, (c) information literacy, (d) research methods and data analysis skills, and (e) interpersonal skills and an

appreciation of diversity. Also included in their list are three additional outcomes: (a) frameworks for knowledge, (b) history as a context, and (c) ethics and values. In their descriptions of capstone courses, the authors indicate how these goals function as objectives for the capstone experience.

The requirements for a capstone will vary widely from one experience to another and from one institution to another. The common factor among them all is that the students come into a capstone experience with some background in psychology. The idea behind the capstone is that students will take what they have learned and apply it. Most capstone prerequisites include being a senior in the major and many require students to have already had the statistics and methodology course in the major. Schools that provide capstones may only provide one option while other schools provide several options for the students' capstone experience. For example, at Loyola University, students have the option of taking an advanced laboratory course, engaging in supervised research, or completing an internship, all of which are counted as capstone courses.

Types of Capstone Experiences

In this section, we review several types of capstone experiences, provide examples, and where applicable, include the described goals for psychology majors in each capstone experience.

History and Systems Courses

The history and systems course in psychology is an appropriate capstone found at a number of institutions and has been around for more than 30 years. Raphelson (1982) described the specific contributions of the history of social science as a capstone course. He believed students are better able to understand the various concepts of psychology (social, developmental, learning principles, etc.) once they are exposed to their historical roots. Dunn and McCarthy (2010) suggested that the history course is an ideal capstone experience as it puts some of the original questions psychologists struggled to answer into context and relates them to contemporary issues. They noted that while many of the questions in psychology have remained the same, the approaches used to answer the questions have changed over time.

Benjamin (2010) described the history course as an excellent capstone in that it brings together many of the goals described by McGovern et al. (1991). He discussed how writing requirements within the course could hone communication skills if the classes are small and if students have an opportunity to write and rewrite with feedback from the instructor. He described how the history course is teeming with examples that can be used to engage students in critical thinking. Some of the topics include phrenology, paranormal phenomena, anthropometric testing and more. Benjamin also emphasized that psychology should be discussed in the greater context of social, cultural and historical frameworks so that students understand the interconnectedness of psychology and the rest of the world. He addressed the importance of the capstone for students who may not share our love of learning. "But for students in a capstone course, about to leave the university and thus likely their last formal learning experience, it seems especially crucial that we help them understand the need to read, to read well, to think critically, to think about context and the way it shapes the world in which they live. Our world depends on our educated citizenry making better decisions, even making better decisions about their own lives" (p. 181). He underscored the importance that, as educated people, our students need to know how to find information, information they can use to influence decisions about their health, their children in schools, their employment concerns and much more.

Several colleges and universities (e.g., SUNY-Plattsburg, Case Western Reserve, Marshall, Stephen F. Austin) use the history and systems model for the capstone experience. For example, Temple University utilizes the history course as a capstone and describes the focus of this course to be on the "conceptual bases of the major contemporary systems in psychology" (http://www.temple.edu/bulletin/ugradbulletin/ucd/ucd_psych.html). In their course, students make sense of the relationship between different fields in psychology using the historical perspective. Students work on projects to help them organize and interpret their knowledge as it relates to their career goals. The focus of the projects is to connect the historical antecedents to the current state and practice. At Temple, the history and systems course is limited to seniors majoring in psychology, as is often the case for capstone courses.

In general, history and systems courses provide students with an important framework for knowledge, in that it allows students to place knowledge within a context that connects what they know to the past, clarifies the present, and allows them to think creatively about the future (Benjamin, 2010).

Honors or Independent Studies/Thesis

Many psychology departments (e.g., Haverford, Illinois State, West Virginia) use an independent study or thesis as their capstone or as an option for a capstone course. What these options share is that students have the opportunity to study a facet of psychology in more depth. In an Honors course,

students typically conduct a research study in which they bring together all the tools they learned in previous courses (statistics, research design, writing, etc.) on a focused issue or problem. An independent study course may be different in that an empirical research project may not occur, but a topic is studied in detail that may not be part of the regular curriculum for that institution. At Randolph College students complete the two-semester Senior Seminar in General Psychology as a capstone experience (Schwartz & Tatum, 2008). The course is team taught and culminates in the production of a student-designed research project. Faculty who teach the course contact students who register for the course and ask them to think about possible topics for a group research project. During the Fall semester, students review research methods and develop a research proposal. Data collection, analysis, interpretation and presentation take place during the Spring semester.

Cathey and Murdock (2008) described the senior thesis as the capstone experience at Missouri Southern State University. "Students work independently to complete all phases of a research project on a topic of their choosing" (p. 83). Students take this course after completing a three-course research preparation sequence. The three courses include Applied Statistics, Computers in the Behavioral Sciences, and Experimental Psychology. The senior thesis brings together what they have learned in these other classes into a final project and typically promotes the synthesis and integration of the knowledge gained from several areas of psychology.

Service Learning: Internships/Practicum/Fieldwork

Internships, practicum, and fieldwork all refer to service learning opportunities that allow students to take what they have learned in the classroom and apply it in a real-world setting. An internship in some respects equates to a student doing volunteer work in a business, public or private agency or other organization. The difference between service learning and volunteer work is that there is a component in service learning in which students are expected or required to discuss their learning with an instructor or class, to write and perhaps present their learning, and to tie the academic learning to what they experienced in the field. According to VandeCreek and Fleischer (1984), like other capstone experiences, service learning may assist students in unifying a diverse body of knowledge and enhancing liberal education goals as well as helping students when it comes to applying for graduate school or for employment opportunities. One of the pivotal opportunities that

students can glean from any service learning experience is the opportunity to work in a field they plan to pursue and to find out if they really want to pursue that career path. Students may be more motivated to pursue their career goals after the opportunity to work with clients, which can help them decide if this is the right choice for them. In either case, it is a valuable lesson, one they could not get from the classroom alone.

Good service learning courses that serve as a capstone experience will (a) address the significant learning objective for the capstone experience, (b) meet real community needs, and (c) integrate the service learning experience into the academic goals of the course by means of reflective assignments, class discussion, or both. This last component is especially important in expanding the service experience into a service learning experience. To develop a good service learning experience, Ozorak (2003) recommended the following: Define the learning objectives for the course that will help you to think of ways a service opportunity can contribute to those objectives. In searching for a service opportunity, it is important that the service meets real community needs and utilize and develop students' skills. In finding a site that matches the needs of the students, you should check out the site yourself for safety concerns as well as for linking the requirements of the service provider to your learning objectives. Ozorak suggested that a good service learning experience is about 20-25 hours per semester. Fewer hours may not provide the student with sufficient time to learn from the experience and long hours can overwhelm the student. The role of the instructor during the service learning experience is to first orient the students to the service expectations and to the site where they will be working. Some instructors of service learning visit the site during the learning experience from time to time, but the site visit by the instructor may be needed less with students in a capstone experience. To ensure that students connect the service experience to the learning objectives, instructors need to develop exercises (e.g., reflective journals, class discussions) that will make those connections explicit. It is also important to keep in touch with the students during the experience to keep abreast of what they are encountering. It is also useful to check in from time to time with the site personnel who are supervising your student.

Some examples of successful service learning courses include opportunities for students to integrate classroom learning with real-world activities, and the internship experience can give students a jump on a career in a psychology-related field. Metropolitan

areas generally provide more opportunities for service learning. For example, at Loyola University, the internship options include an internship in human services and an internship in applied psychology as well as a course in application and requirements. In less populated areas, there may be fewer options available. In the field experience at West Virginia University, "students are involved in an off-campus placement where they apply their knowledge of psychology and learn related skills" (See: http://psychology.wvu.edu/ future students/ undergraduate programs organizations /majoring in_psychology).

Grayson (2010) discussed how fieldwork "is the ultimate capstone for a student's academic career" (p. 295) though he admits it can be a challenging endeavor. "There are multiple opportunities for students to be 'active and collaborative' learners through the application of psychological principles, ethical issues such as confidentiality, and values such as decisions about which populations to serve. There is the potential to interact with diverse populations" (p. 280). He also mentioned that there is less opportunity for research in fieldwork but it may exist.

Grayson elaborated on the point of fieldwork affirming or disaffirming career directions. He also described how career planning may be strengthened with mentoring relationships during fieldwork. Those mentors may serve as references for graduate schools or they may provide useful contacts for others hiring in the field. Some of the requirements for fieldwork at James Madison University include writing a weekly reflection log, writing an APA-style paper, and demonstrating presentation and public speaking skills. The APA-style paper is to describe a focused aspect of service and then compare that to the agency practices the student observed.

Senior Seminars or Integrative Experiences

Senior seminars or integrative experiences are generally described as a more in-depth oriented course such as Advanced General Psychology or a course on a special topic (e.g., jealousy) in psychology that is examined from several perspectives.

Temple University's Capstone in Psychology course provides a good example of such a course. Courses cover different fields across semesters. As a capstone, the concern is to have students see how psychology is applied to real-life problems and to see how psychology links to different fields. "The emphasis on synthesis and application makes this capstone particularly useful for students planning graduate work in psychology and those unsure of the direction they would like to take in psychology"

(See: http://www.temple.edu/ bulletin /ugradbulletin/ ucd/ucd_psych.html).

Appleby (2005) described an example of a special topic course used as the capstone experience at Indiana University-Purdue University Indiana (IUPUI). A requirement of the capstone course was that students perform one of two collaborative research projects that allowed them to become part of the university assessment process. The first project addressed an issue described in the department's self-study related to how well psychology courses met the student learning objectives. In the second project, students developed a survey to grade themselves based on the extent to which they perceived that they had attained the departmental student learning objectives.

In this capstone, students performed a collaborative assessment project making them participants in the assessment process. Students gathered syllabi from all classes offered by the department that fulfilled graduation requirements. They identified the seven student learning outcomes and "de-bundled" them into 15 elements that could be identified within each syllabus. Each of those outcomes was labeled as Beginning, Developing, and Advanced using a modified version of Bloom's taxonomy. This was "to determine if the curriculum was set up in a developmentally coherent manner that provided psychology majors with a sound foundation in psychology in lower level introductory classes and then challenged them to build upon this foundation with more complex cognitive tasks in intermediate and capstone classes" (Appleby, p. 1). The IUPUI capstone is a good example of how students can conduct research that is useful in the assessment of a program. For more on how to design a course that allows students to assess their education, see the chapter by Barron and Butler in this volume.

Extension of the Core: An Issues-Oriented Capstone Course

A variation of the senior seminar is the extension of the core or an issues-oriented capstone course. In this case, students examine a particular topic in psychology and the course is built around that advanced topic. For example, Ault and Multhaup (2003) described the issues-oriented capstone course offered at Davidson College that included (a) clashes between major theoretical approaches, (b) ethical challenges, (c) fundamental questions (e.g., nature-nurture), or (d) contemporary debates (e.g., repressed memories).

The course is structured so that students turn in written comments the day before a class meeting and then the classes are student-led discussions. There is some variability among instructors as to whether the

student-led discussions are formatted for debate or small group discussions that are then reported to the whole class, or if a theme from the student responses is used for a larger group discussion. A secondary goal in the class is to help students hone their written and oral skills.

A somewhat different example of an extension of the core is the course offered at Western Oregon University. Roscoe and Strapp (2009) described this 4-credit hour capstone course entitled Professional Issues in Psychology, designed to prepare students for a career in psychology. Their description of the class provides the class activities and assignments as well as the results of a study that compared the satisfaction of students who took the class to those who did not take the class. Course assignments included a group presentation on a specialty area, a self-assessment paper, a goal statement and timeline, research into three graduate school programs to be shared in the class practicum presentations, a personal reflection journal, and peer feedback. The activities included required meetings with the instructor and guest speakers.

Roscoe and Strapp's study regarding satisfaction found that students who took the Professional Issues class "felt more satisfied about their preparation for further academic study and their preparation for entering the job market relative to students who had not completed the class" (p. 21).

Boysen (2010) described an integrative capstone course on the Unconscious. "Themes in the course include the existence of mental processes that individuals are not aware of, do not have access to, and are not able to control, and how these processes lead to efficiency and confabulation" (p. 237). Boysen provided suggestions and ideas for anyone thinking about developing a similar course and he provides ideas for course readings, assignments and activities. Some of the areas that he focused on include questions such as why psychology needs the unconscious, and topics such as psychodynamic theories, the modern unconscious, and consciousness and free will. He also focused on using original sources, as there is no textbook for this topic. The examples presented here for extension of the core or issues-oriented courses illustrate the variety of topics that can be a focus for a capstone experience.

Psychology as Portrayed in the Media

Another type of class that may be a useful capstone is one developed by Miller and Wadkins (2008). Their seminar course integrated an understanding of psychology and mass media, specifically the medium of movies, where real-world problems are explored. Students viewed 12 movies that realistically portrayed a psychological phenomenon. The phenomena explored included environmental psychology, psychopathology, social psychology, cognitive psychology, and developmental psychology. For each movie/topic, we assigned students seminal articles related to that psychological phenomenon. Students completed readings before an in-class discussion that tied the movie and article to the psychological concept. We used the discussions to develop critical thinking skills and to explore what psychological principles were depicted in each film and whether or not the movie accurately depicted real-world situations. A final requirement was a term paper that presented a synthesis of knowledge on the various topics of psychology using examples from the movies, the readings and the class discussions. The movies viewed in this class were *Nuts*, *12 Angry Men*, *Tootsie*, *All the President's Men*, *Stepmom*, *Memento*, *Enemy Mine*, *Love Actually*, *My Big Fat Greek Wedding, When a Man Loves a Woman*, *Coming Home,* and *Bucket List*. Examples of the readings included Crano and Seyranian (2007) for *12 Angry Men*; Rosenhan (1973) for *Nuts;* Taft, et al. (2005) for *Coming Home*.

The primary goal of this course was to explore the major psychological approaches to the study of behavior, including their history, contributors, research findings, terminology, and current directions. This course also encouraged personal development through increased understanding and tolerance of the behavior of others and a curiosity about the forces that make us behave as we do.

Advanced Laboratory/Research Options

Undergraduate research can provide a capstone experience that (a) promotes students' view of the importance of the world of ideas, (b) increases faculty-student interaction outside the classroom, and (c) promotes student engagement and intellectual development by transforming them from passive to active learners. Ideally, undergraduate research experiences provide a number of benefits beyond creating new knowledge, including perseverance at a task because many experiments will not work out as originally planned, development of self-discipline and leadership skills, the ability to solve technical and procedural problems, and for many, clarification of their career goals as they get a taste of what professionals in the field really do.

Several schools provide the option of conducting undergraduate research as their capstone experience. For example, at Loyola University in Chicago, one of the options that senior psychology majors have for completing the capstone requirement is a laboratory

course. Students who choose the laboratory course option can select any of the following to complete their capstone experience: Program Evaluation; Psychobiology; Experimental Psychology: Cognition; Tests & Measurements; Experimental Psychology: Sensation & Perception; Developmental Psychology; Social Psychology; and Experimental Psychology. Students taking these laboratory classes will have already completed a statistics and research methods course. As in other capstone experience, students in the laboratory courses have the opportunity to apply their previously learned knowledge of the major into this one experience.

At IUPUI, a website is available for students' capstone laboratory that guides the student through their lab project. There are links to choosing a research question, doing the literature review, designing the study, writing the different sections, and so on. At IUPUI, they also lay out the 10 specific learning objectives that represent six learning principles that students are expected to master during the class. The six principles are (a) intellectual depth and adaptiveness, (b) critical thinking, (c) application and integration of knowledge, (d) communication skills, (e) quantitative skills, and (f) values and ethics. The specific learning objectives are tied to these principles and incorporate the steps to completing the laboratory project. For example, the two specific learning objectives tied to the first principle (intellectual depth and adaptiveness) include (1) describe and carry out the steps of the research process and (2) describe and evaluate research in the area of clinical psychology (See http://www.psych.iupui.edu/capstone/).

Durso (1997) described a variation of the laboratory course. The University of Oklahoma offers a Corporate-Sponsored Undergraduate Research experience as a capstone course. The semester before the class begins, a number of businesses and organizations are contacted with a request for interest in the types of research projects that students could conduct that might be of value to them. In the course that Durso described, the students chose three projects. The projects included an analysis of flight data for the Federal Aviation Administration's Civil Aeromedical Institute, a survey for a local bank, and a naturalistic observation of seat belt compliance for the city's Police Department. The students engaged in the research and presented their findings to the respective constituents. Durso reported that the experience was valuable, not only for students but for the sponsors as well.

Many institutions offer laboratory classes or independent study classes that address the six principles identified at the beginning of this section but they do not identify them as capstone courses.

For institutions considering offering capstone classes, Dunn and McCarthy (2010) offered the suggestion "some departments may simply wish to reevaluate a course they already offer" (p. 158). For those institutions wishing to explore the inclusion of a research experience in the form of independent study or laboratory courses as their capstone experience, Miller et al. (2008) discussed how to structure the curriculum to promote undergraduate research, the departmental resources needed to support undergraduate research, ways to excite students about conducting research, rewarding faculty who promote undergraduate research, and the benefits of undergraduate research.

Teaching Assistant/Tutor

A unique approach to the capstone experience involves providing the undergraduate with the opportunity to assist in teaching psychology. At West Virginia University, one of the choices for their required capstone experience includes a teaching practicum. In the teaching practicum, students "learn to teach by serving as tutors or proctors for a course they have previously taken." Students must have instructor permission to enroll in the teaching practicum, and the instructor must agree to supervise them. Students enrolled in this practicum are expected to participate in as many activities as possible. These activities include "participating in meetings concerning the course, attending the class, learning (and re-learning) course content, helping develop course materials, helping select audiovisual materials, grading (with appropriate training), presenting lecture material, leading class discussions, helping develop exams, tutoring students, conducting help sessions for students, proctoring exams, helping with labs or demonstrations, and providing evaluative feedback to instructors.

Other methods used at West Virginia to increase the educational value of this capstone experience include assigning students relevant readings, having them keep a journal about their activities and how those activities are relevant to teaching psychology, or having them develop a classroom activity or research proposal related to the course with which they are assisting. Students also provide feedback to the instructor at least twice during the semester. The feedback provides information based on the student's observations of a lecture, demonstration, materials, or a classroom exercise. This component allows the student an opportunity to evaluate or appraise some element of teaching. (See http://psychology.wvu.edu/ futurestudents/undergraduate_programs_organization s/undergraduate_handbook/chapter_4).

Loyola University of Chicago also offers an opportunity for students to teach as part of a capstone

class. As an example, Zechmeister and Reich (1994) outlined the assignments and activities in their capstone class and describe how they "combine traditional classroom aspects and applied experiences" (p. 24).

Relationship of the Capstone Experience to Assessment

A capstone course may provide the ideal setting to assess student learning outcomes. To the extent that the course represents a cumulative educational experience, assessments for these courses can evaluate student learning for most (if not all) of a program. Also, as endpoint courses, capstones can serve as a platform in which standardized testing can occur (GRE subject tests, departmental final exams, ETS subject tests, etc.). Often such formal tests form the backbone of a department's assessment activities. Another benefit is a convenient opportunity for assessing the relationship between the learning objectives of a discipline and the learning objectives of the university's general education program as well as other university objectives.

To set up a capstone assessment plan, it is important to first define your objectives, which should match program and student learning outcomes. Second, you should integrate the learning objectives of your program with other university-level programs and with the objectives of your capstone course.

In a good assessment plan, you should try to use direct methods of assessment as opposed to indirect assessment. Direct assessment can be more easily facilitated in capstone courses because they can be implemented in a specific forum with specific students. Many of the types of capstone experiences that we describe in this chapter involve projects and simulations that can be a form of authentic assessment—they challenge students to use what they learn through the course of a program in a real-world scenario. Other assessment techniques can involve data mining to examine student performance on specific rubric measures and/or scores on sub-scores on specific learning outcomes. These techniques can be used to connect performance with the achievement of specific student learning objectives. Also, many capstone experiences involve outside parties who could also function as evaluators (i.e., real-world professionals and potential employers could grade students using a specific rubric).

One of the goals in the APA Guidelines for the Undergraduate Psychology Major is communication (APA, 2007). Therefore, writing is often seen as an essential component of any assessment program in psychology. A common thread through nearly all the capstone experiences described is that students write a paper as part of the requirements in a capstone course. This same thread of writing was the primary focus for assessment in the capstone classes as well. Dunn and McCarthy (2010) argued that this one paper from a capstone course may be a sufficient culminating product to assess writing skills rather than having a portfolio of writing throughout the undergraduate career. Benjamin (2010) identified three skills for assessment that students in a capstone class should show improvement on from previous learning across the curriculum. The three skills are communication skills, critical thinking and emphasizing context. He then provides numerous ideas for assessment including student research projects, departmental histories, critical thinking exercises and so on.

Assessment of whether a student has mastered a specific skill can be readily captured but the assessment of learning may be more difficult. Messer and Porter (2010) discussed how learning is complex and "that no single measure, including a meticulous evaluation of any particular work product, adequately captures student learning" (p. 227).

Others suggest that the capstone is an adequate environment for assessing student outcomes. Sullivan and Thomas (2007) described "the efforts of a department of psychology to achieve and document its undergraduate student learning goals. Through a research-intensive senior capstone experience, the department demonstrated its undergraduate curriculum results in significant and positive student learning outcomes" (p. 321).

To offer a capstone experience that serves as a forum for assessment, there are a number of important student learning outcomes that can be included in the objectives for the course. Among those are the ability to (a) write in a clear, organized and effective manner, (b) speak effectively and intelligently, (c) work well in groups or teams, (d) make well-reasoned decisions, (e) use information resources effectively, (f) critically evaluate information, (g) understand the theories and perspectives of the discipline, and (h) use research skills (Murphy, 2008). Each of the capstone experiences described in this chapter lends itself to promoting several of the learning outcomes outlined above.

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SENCER: Science Education and Running Before Walking

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Should college professors try to make course material relevant by using outside-of-the-classroom "engagement" activities when students do not yet have the basic knowledge and vocabulary necessary to meet the goals of the course? In coaching, you must teach the fundamentals before you can address more complex skills. Learning to walk precedes learning to run. Given the explosion in the amount of basic information and the technical nature of many fields, especially in the sciences, it seems you should teach basic information and vocabulary before you can apply them in the laboratory or in the field. Classroom time is limited so when you reduce the amount of laboratory and lecture time, the basics cannot be "covered."

Papert (1980) described the view rooted in Psychometrics that a person is a bundle of attributes including different abilities in language and math. The notion that students either "get it" or "they don't" had become part of the underlying assumptions of many mathematics teachers. Thus, they merely laid out the basics of algebra, calculus, and geometry and either the students "get it" or "they don't." Perhaps Papert's view can be extended to science education. Either students get the basics of scientific inquiry or they don't. Therefore, the best an instructor can do is lay out the multitude of facts and theories, and see which students "get it."

Indeed, beliefs, perhaps "myths," concerning higher education, especially science education, continue to echo in the minds of higher education faculty members (Eble, 1988). Notions of students having to learn the basics, a suspicion that students are more ill-prepared and unmotivated than ever, the presumption of students' differential abilities, as well as the professors' limited amounts of classroom time to cover more material drive many faculty to remain in the "comfort zone" of the traditional lecture/discussion classroom.

Science Education for New Civic Engagements and Responsibilities (SENCER) is an international program that challenges traditional beliefs about teaching science. According to SENCER, science can be taught by addressing important civic questions and using scientific techniques to provide answers to relevant issues. The SENCER Ideals are displayed in Table 1. The Ideals express in eloquent terms the philosophical and pedagogical positions of the program.

Table 1
The SENCER Ideals

- SENCER robustly connects science and civic engagement by teaching "through" complex, contested, capacious, current, and unresolved public issues "to" basic science.
- SENCER invites students to put scientific knowledge and scientific method to immediate use on matters of immediate interest to students.
- SENCER helps reveal the limits of science by identifying the elements of public issues where science doesn't help us decide what to do.
- SENCER shows the power of science by identifying the dimensions of a public issue that can be better understood with certain mathematical and scientific ways of knowing.
- SENCER conceives the intellectual project as practical and engaged from the start, as opposed to science education models that view the mind as a kind of "storage shed" where abstract knowledge may be secreted for vague potential uses.
- SENCER seeks to extract from the immediate issues, the larger, common lessons about scientific processes and methods.
- SENCER locates the responsibility (the burdens and the pleasures) of discovery as the work of the student.
- SENCER, by focusing on contested issues, encourages student engagement with "multidisciplinary trouble" and with civic questions that require attention now. By doing so, SENCER hopes to help students overcome both unfounded fears and unquestioning awe of science.

The core goal of the SENCER Ideals is to design science teaching around important present-day public issues and problems. Present a problem first and then ask the students to help provide the knowledge to address it. In the context of engaging the problem, students learn the scientific process of inquiry, especially those students from other disciplines, who are fearful or otherwise ignorant of science. SENCER has been a major contributor to the growing current trend in engaging undergraduate students in research. The present paper will review some of the history of SENCER and provide examples of the approach within a psychology course.

SENCER: Genesis at Rutgers University

Monica Devanas at Rutgers University taught the first SENCER-like course, entitled "HIV, Biology, and Society." The major purpose of the course was to teach biological principles through analysis of the phenomenon of HIV/AIDS. The development of the course material had to satisfy the Biology Department by including material that a non-science major would need to fulfill general education science requirements. The development of the course was a daunting task in several regards. According to Burns (2003), Devanas had to face several challenges: She had to identify the canonical elements of a general education biology course, as well as the aspects of HIV/AIDS phenomenon that matched those elements. She reordered the canonical elements to match the story of HIV/AIDS, addressed those topics that might be left out of the course if strictly adhering to the HIV/AIDS story, developed the expertise of the instructor(s), and developed the more mechanical details of the course to support the overall goals.

Devanas' course was and continues to be a success. According to Burns (2003), "Since the course was first taught, more than 4,000 Rutgers students have enrolled in it. Enrollment has to be capped; the demand has been and continues to be great, even as HIV gets buried under a pile of issues competing for the attention of students. The campus student newspaper, *The Daily Targum*, in a rare excursion into matters curricular, spoke for student interest when it editorialized, 'Give Us More.'"

As a result of the course's success, it was disseminated in 2001 as a model course for SENCER and the National Center for Science and Civic Engagement. This first step led to an institutionalization of the technique of using civic engagement to teach the scientific process, and SENCER was born. Finding solutions to the types of problems faced in course development and disseminating the solutions form the core of the SENCER program. The Association of American

Colleges and Universities and the National Science Foundation sponsor these efforts.

Two important points need to be highlighted. An initial goal of SENCER is to provide science knowledge to non-science majors by having them do science in the context of civic problems. A good portion of the promotional effort for SENCER concerns convincing scientists, who control the science curricula, that this approach is suitable for a good content-oriented general education science course.

Secondly, civic problems are interdisciplinary, whereas College and University Professors are highly specialized. The mismatch between a generalist course and disciplinary specialists who teach it has to be creatively addressed, perhaps in ways that the traditional administrative structure of departments cannot easily accommodate. SENCER has also targeted administrators for their persuasive efforts.

SENCER Support

Model Courses

SENCER provides model courses for faculty who might be interested in developing a similar SENCER style course. For example, one such model course, The Science of Sleep, as taught by Herve Collin at Kapi'olani Community College, includes a detailed course syllabus listing course objectives, required textbooks, and descriptions of the pedagogical techniques used. In the course, the students kept a sleep journal and analyzed both qualitative and quantitative data concerning their own sleep patterns. The College provided sleep monitors which allowed the collection of quantitative sleep-quality data.

A sampling of other model courses include: Chemistry and the Environment; Science, Society and Global Catastrophes; Biomedical Issues of HIV/AIDS; Human Genetics; Energy and the Environment; Nutrition, Wellness, and the Iowa Environment; Global Warming; Environment and Disease; Chance; Sustainability and Human Health; Forensic Investigation; Renewable Environment: Transforming Urban Neighborhoods; Issues of Health Society: Obesity; Addiction: Biology, Psychology, Society; Computer Ethics; Introductory Statistics with Community-based Projects; and Food for Thought: Engaging the Citizen in the Science and Politics of Food Information, Food Consumerism, Nutrition and Health. Although many of the topics seem outside of the range of scientific psychology, it should be understood that many have been developed specifically as interdisciplinary courses, sometimes team taught by faculty members from different departments. Even so, it is possible to see the

potential contribution of scientific psychology to each course—for example, the capability to assess public awareness of issues and to propose and evaluate means to change the public's perception of, and attitudes toward, such problems.

Backgrounders

Many professors are moved out of their "comfort zone" when involved in a SENCER course. One solution is to team teach the course with faculty from different departments. SENCER also provides support by publishing *backgrounders* for different areas. Backgrounders provide up-to-date information about a topic that can serve as a resource and a link to more relevant reading. For example, one such backgrounder, "Why should you care about biological diversity?" (Sterling, Bynum, Laverty, Harrison, Spector, & Johnson 2008) provides clear definitions of terms and points of contention in the discipline. Sterling et al. then go on to describe the value of biodiversity in a variety of contexts from agriculture to aesthetics. Finally, responses and actions that can address biodiversity loss are described in a way that can be easily translated to class projects and/or research.

Another backgrounder, "Implications or Learning Research for Teaching Science to Non-Science Majors" (Etkina & Mestre 2008) addressed more general pedagogical concerns about science education. The paper provides suggestions for designing SENCER type courses, for maintaining student interest, and relates SENCER activities to current learning and educational research.

Community

SENCER serves as a communication conduit for faculty members who have used or are interested in this approach in science education. The cornerstone meeting is SENCER Summer Institute, consisting of five days of workshops for new participants, plenary presentations by the leadership, and reports on mature projects. Institutions may apply to send a team of faculty.

SENCER and the National Center for Science and Civic Engagement support an annual Washington D.C. Symposium and Poster Session, wherein developers of innovative courses have avenue to share their experiences with members of Congress. The Symposium occurs within the larger context of the communicating the importance of STEM education initiatives to federal decision makers.

SENCER also supports regional Centers for Innovation, which provide support for programs and programming for SENCER members and those interested in developing SENCER courses. Regional Centers are currently located at Rutgers University,

Harold Washington College, Southern Connecticut State University, University of North Carolina at Asheville, Texas Women's University, and Santa Clara University.

The centerpiece of the SENCER Community is its comprehensive website (www.sencer.net). Information concerning the SENCER approach, such as resources, conference information, recent news, new initiatives, and contact information, is readily accessed. An instructor may also register to receive a monthly e-mail newsletter.

Assessment

Assessment of student learning is a major concern for the SENCER program. The organization provides a free assessment device, Student Assessment of Learning Gains (SALG) for use by faculty teaching SENCER courses. Although the questionnaire may not be suitable for assessing specific content gains in students, it provides feedback concerning students' initial attitudes concerning themselves as scholars and citizens, encourages students to do metacognitive analysis of their own learning in the class, and provides feedback that be used for course improvement. A major advantage of the SENCER-SALG is that it is a uniform platform for assessing SENCER type courses and allows comparative analysis of different SENCER courses. However, the specific assessment of content gains is left to the specific institution.

Psychology and SENCER

While SENCER techniques seem ideal for psychology and many of the principles can be used in many psychology courses, the focus of the program is the natural sciences. Regardless of the focus of the program, it is instructive to consider the reasons for resistance to SENCER and similar engagement efforts as they apply to Psychology.

As I suggested in the opening paragraph, there is a professorial reluctance to apply new pedagogy in their classrooms. Professors' training, research expectations in their work, and the prestige associated with being a "professor" rather than a mere "teacher," provide numerous reasons for the status quo. There is also a touch of arrogance among scientists. Perhaps the thought of a non-science student doing research without requisite years of memorizing such concepts as the Krebs Cycle, is offensive to the traditionally trained scientist. (Listen to Brenna, Horne, Levy, & Wheeler, 2008, for an entertaining view of this.) There is also the notion that describing research to the general public (such as non-science majors) somehow cheapens science. (Olson 2009) Doing science is most important to the

scientist and communicating scientific results and teaching the scientific method are secondary. Making science relevant to the general student body only cheapens the mission of a scientist. Furthermore sloppily applied science is not worth the time and energy.

There are important lessons to be learned here. Do these prejudices apply to scientific psychology? The record indicates otherwise. According to Henry and Bargar (2010), Psychology has embraced applied learning experiences, including internships/practica, service learning, and independent research. Broadly defined, psychology students do learn outside of the classroom. However, since psychology is more often associated with the social sciences, do these experiences provide a venue for learning about natural science and the scientific process generally? In many cases, especially in clinical internships and practica, the focus is more on the technology of therapy rather than the generation of new knowledge.

SENCER courses have been designed as general education courses for the non-science major. Psychology perhaps has been a leader in applied learning experiences for its majors, is a similar program appropriate for our general education courses? Furthermore, would a SENCER-like course be appropriate for an Introduction to Psychology course? As I ask the question, I find myself resorting to the same rationales as the natural scientists.

Psychology courses in personal adjustment, human development, social psychology and General Psychology are offered at the lower division or introductory level. Perhaps most, if not all or them, are offered within the general education categories of social sciences or personal development. Depending on how the institution defines the objectives of the social sciences, it is possible that the courses will include little, if any, science in the course. The engagement activities could be more reflective, oriented toward personal growth rather than scientific.

I propose that Psychology courses such as these offer us an opportunity to teach scientific inquiry via SENCER-style courses. Psychology courses can and should be more than a reaffirmation of myth that psychology is essentially therapeutic technology. Good psychological science can be incorporated into a course with civic engagement. An excellent example was provided earlier in the model course, "The Science of Sleep." Perhaps topical introductory-level courses could include sleep, noise pollution, global warming, human-made and natural disasters, evolution and behavior, addiction, and others—only limited by the urgency and visibility of civic issues and the creativity of the instructors.

How to SENCER

An illustrative example is the course Environmental Psychology, offered at our institution. The course is a junior-level course, but has only Introductory Psychology as a prerequisite, so non-psychology majors enroll in the course. The content of the course includes theoretical topics in perception, cognition, and environment-behavior relationships. However, the bulk of the content is more topical and amenable to civic issues, such as noise, toxic hazards, pollution, crowding, urban living, planning and design of environments, and the environmental movement. These specific topics are well suited to support a SENCER-like approach.

Richard L. Miller and I have enhanced the course to include a research project that might address an applied area. For example, when our campus was undergoing a major construction project, which involved the displacement of many students from their assigned residence halls, students became interested in surveying the affected students and measuring the degree of their responses to the change. We also had students who were interested in the effects of construction noise on study habits and stress levels in students. Other projects concerned road rage and vehicles as primary territory, use of cell phones in various contexts on campus, the tendency to anthropomorphize and models of mind for other species, territoriality, and yard decorations.

At the SENCER Summer Institute in 2004, a class was described at the University of Santa Clara wherein the students implemented and assessed a campus-recycling program. Implementation required consultation with and approval of the University administration, experts in recycling, approval of community entities to get the material hauled away, and organization of the recycling effort itself. The assessment included changes in personal attitudes about recycling, monetary savings to the University due to the program, increases in the amount of recycled materials, and other impacts that the program had. In view of this very applied project, it is possible to expand the range of researchable topics for Environmental Psychology.

Future topics in Environment Psychology could focus on community issues concerning intervention programs in the community, such as DARE; techniques to improve traffic and pedestrian safety, such as increased police patrols; assessing the psychological effects of the environmental changes on our campus, i.e., renovation of buildings or alterations in their design; or even changing the signage on campus to improve the aesthetics and information value.

Science can be taken out of the lab to address civic problems that are relevant to student interests. With a little creativity and the assistance of a group like SENCER, it is possible to piggyback science education onto these projects.

Summary

Science education has been associated with the dissemination of facts, figures, and theories in a traditional lecture/discussion classroom. The major goal of the program Science Education for New Civic Engagement and Responsibilities (SENCER) is to provide a model of science education wherein the goals of teaching good science are met by doing science to answer problems in the civic arena. The activities of SENCER are described as well as some examples within Psychology.

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First-Year Experience: Introduction to the Psychology Major Course

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A sluggish economy has contributed to an unemployment rate hovering as high as 9.9% (Bureau of Labor Statistics, 2010a) at the end of the first decade of the new millennium. Such rates have increased college enrollment to a record high of 70.1% of new high school graduates (Bureau of Labor Statistics, 2010b). Recent data (Bureau of Labor Statistics, 2010a) show that for high school graduates under age 25 who do not enroll in college, the jobless rate is 24.5%, while their college-educated peers' rate is 8%, making obvious the attraction of a bachelor's degree. However, many college students struggle during their first year, contributing to a college dropout rate of 25% (NCHEMS, 2010). In an attempt to improve retention, colleges and universities have focused on the first-year experience (FYE) of students.

FYE courses have become noticeably present in college curricula across the country (Heirdsfield, Walker, Walsh, & Wilss, 2008). The importance of providing support for college and university first-year students is reflected in initiatives such as the Policy Center on the First Year of College (http://www.firstyear.org/), the National Resource Center for the First-Year Experience and Students in Transition (http://www.sc.edu/fye/), and a published compendium of research on the FYE (Feldman, 2005).

FYE courses offer life, discipline-specific, and basic academic skills that serve a much-needed function (Schrader & Brown, 2008). To accomplish a quality first-year experience, "faculty need to meet students where they are, engage them with reasonable rigor, and support them in their efforts to succeed" (Duffy, 2007, p. 482). Academic success (King, 2005), career counseling (Cuseo, 2005), and retention (Cuseo) are critical issues undergirding a useful first-year experience.

The Psychology faculty at Emporia State University (ESU) started the course PY102 Introduction to the Psychology Major in the Fall, 2004 semester as a means of improving the FYE and increasing student retention within the major. All psychology majors are required to compete the one-credit course, which targets freshmen and new transfers to ESU. As Applebee (2001) noted, in addition to the traditional curriculum, successful college students also experience a "covert curriculum." ESU faculty wanted to expose freshman and transfer students to relevant skills, people, topics, and knowledge that might often "fall through the cracks" of the traditional curriculum.

Consistent with the FYE research and mindful of the traditional vs. covert curriculum, the ESU faculty established the following goals for the course: (a) familiarizing the students with the curriculum; (b) building rapport among new majors, current majors, and the psychology faculty; (c) providing new majors with a tangible "academic home;" (d) supporting students' undergraduate success; (e) supporting students' career explorations; and (f) involving new majors in the life of the department at a time most students are focused on general education. Since offering the course, the retention rate of freshmen who declared psychology as their major prior to the course and returned as sophomore psychology majors sustained a 15% increase.

The FYE course meets one hour a week for 16 weeks (or 2 hours a week for 8 weeks) and requires the Landrum and Davis (2010) textbook. The *Publication Manual of the American Psychological Association* (APA, 2010) is recommended but not required. Although different faculty members teach the course, the course goals and course components are constant (see Appendix A). A discussion of those core components follows.

Course Structure and Content

Introduction of Selves

Students introduce themselves to the class and offer a brief statement about what career path, if any, they are contemplating. This introduction (a) provides suggestions for guest speakers, (b) establishes the expectation of active student participation, (c) highlights the flexibility of the psychology major, and (d) offers assurance that hesitation to identify a career path is not uncommon.

As a broad framework for the rest of the course content, the instructor then presents a basic overview

of identity formation (Erikson, 1968) and discusses how milestones (now attained later by young adults than seen in earlier generations, cf. Henig, 2010) impact their selection of psychology as a major and subsequent career paths. Students have more opportunities than Erickson envisioned, and they create a contemporary challenge in identity formation.

Introduction to Curriculum

The instructor talks about the overt vs. covert curriculum, using the Applebee (2001) as required reading. As part of this discussion, the traditional curriculum is discussed, using the APA (2007) guidelines for the under-graduate psychology major. The goals and learning outcomes of that document are reviewed, with the instructor pointing out specific courses in the curriculum intended to help students achieve those learning outcomes. The intent is to help students understand the courses they can expect to take as a psychology major, and the knowledge and skills students can expect to learn in those courses. Additionally, the instructor discusses the covert curriculum, so students know that elements besides coursework contribute to successful college students. After reading and discussing the Applebee article, students are told that understanding the covert curriculum is an outcome of the course.

Superstars

The Applebee article segues to the concept of "Superstars," who demonstrate behaviors that distinguish very successful from mediocre psychology majors (cf. Grover, Leftwich, Backhaus, Fairchild, & Weaver, 2006). Whereas the mediocre psychology major is depicted as a student who merely attends class and completes expected activities, Superstars involve themselves in the department, set goals, explore career paths, familiarize themselves with psychology faculty, do research, attend conferences, and demonstrate other traits as articulated in assigned readings from Landrum and Davis (2010). As part of this discussion, the Psychology Club and Psi Chi officers form a panel to lead an interactive, energetic session, which opens with the question "what is it you wished you'd known as a new psychology major?" Panel members discuss the importance of these Superstar behaviors, highlighting opportunities to know faculty, conduct research, attend conferences, and more. The panel presents student organization offerings and conference opportunities and invites students to find good matches for their interest.

Another Superstar behavior presented by the instructor is attending departmental "Professional Development Sessions" (PDS). On Tuesdays and Thursdays from 11:00 am until noon during the Fall and Spring semesters, no psychology courses are scheduled. Instead, a PDS is offered in varied formats, such as (a) meetings of student organizations, (b) presentations by guest speakers such as applicants for faculty positions or community leaders, (c) presentations by other university departments such as career or library services, (d) students' poster presentations of research, and (e) department social functions like picnics, chili cook-offs, spaghetti feeds, and ice cream socials. All of this activity greatly facilitates students' networking opportunities, as well as their understanding of how parts of the department fit into a cohesive whole. The instructor reviews the PDS calendar and concludes this unit with a tour of the department, its resources/labs, and the locations of faculty offices.

Know Thyself

One of the department's five learning outcomes for the undergraduate psychology majors is that "students will demonstrate the intrapersonal skills of self-reflection and self-assessment." Program assessment data collected over the years indicated that graduates' competence in this outcome was below the faculty's benchmark. Therefore, knowing one's strengths, weaknesses, ambitions, interests, goals, hurdles, and strategies is emphasized in the class through a variety of self-assessments (Persinger, 2009). The process begins with an evaluation of strategies in which an exploration of values, goals, motivators, and confidence is undertaken. An exploration of time management, procrastination, and study skills follows. Other aspects of self-assessment include aptitudes, learning styles, problem solving, test taking and test anxiety, writing and speaking skills, and health issues. These assessments help students understand the importance of support from family and friends, as well as how they and the discipline matter in the grand scheme of things (Rayle & Chung, 2007). Students work steadily on these self-assessments throughout the course, culminating in a final introspection paper in which they review their strengths and weaknesses and develop a plan for overcoming hurdles which they have identified.

Know thy Options

A key unit in the course involves an exploration of psychology career options for both undergraduate and graduate-track candidates. This is supplemented with readings from Landrum and Davis (2010), and a demonstration of the U.S. Department of Labor's Occupational Network Database (O*NET). About 7 or 8 guest speakers, representing the professions identified by students as being of interest during the first day of class, address the group. They discuss preparation for their career, a typical day on the job, salary expectations, and other aspects as solicited by

students. Typical guest speakers include repre sentatives of clinical, experimental/developmenttal, school, industrial/ organizational, and sport psychology, as well as art therapy, social work, corrections, and mental health administration. As these speakers are usually ESU faculty, the presentations are fertile recruiting ground for in-house graduate programs. Speakers also address the admissions process for their graduate programs. This unit culminates with students being given an O*NET assignment to write about the educational and skill requirements of the career they identified at the beginning of the course, as well as a career path of interest that is new to them.

Know research and technology skills

The instructor overviews the department's writing standards and introduces students to APA format. The conventions that ESU students commonly attend are reviewed along with dates, what the students can expect to experience at a convention, and how they arrange to travel at subsidized cost. A discussion (usually given as part of the Superstars discussion by the student panel) of how to become involved with research includes how to learn faculty members' interests, and collaborate with them in research. One additional aspect related to research skills is the appropriate understanding and use of technology. Faculty assistance and mentoring with technologies such as data analysis (e.g., SPSS), presentation software (e.g., PowerPoint), and online learning (e.g., Blackboard) are vital to student success (Hixenbaugh, Dewart, Drees, & Williams, 2006). In addition, the information on the Internet requires a greater level of analysis to discern trustworthy content. A faculty member from The Department of Instructional Design and Technology addresses the credibility and limitations of information on the Internet.

The capstone to this unit is utilizing local library and electronic resources. Library personnel give a physical and virtual tour of those university library resources particularly salient to the psychology major, such as PsychInfo, PsychArticles, ERIC, DAI, *Tests in Print, Mental Measurements Yearbook*; the location of psychology texts, bound periodicals, and microfilm; and the *APA Publication Manual* (APA, 2010) available at the reference desk. The instructor provides a webpage specifically tailored to psychology majors (Akers, 2008) as a summary of the resources.

Know Other Aspects of the Covert Curriculum and Student Involvement

Other course topics important to the success of the psychology major include (a) a department overview from the faculty perspective, (b) anticipating and planning for senior internship and/or capstone

experience opportunities, (c) building a strong transcript (Appleby, 2003), (d) developing a resume/vita and getting a job, (e) identifying graduate school opportunities and admissions, (f) establishing professional ethics, and (g) differentiating among professional organizations such as American Psychological Association and American Psychological Society. Faculty share personal stories about how they went from undergraduate major, to Superstar, to professional, to professor.

Students use well-known psychology equipment such as the Skinner Box, rat mazes, perception distortion goggles, star trace machine, and visual illusions. During some semesters, majors are given the opportunity to go on field trips to psychology-related institutions. One favorite destination is a nearby medium-security prison that employs a variety of personnel with psychology-related occupations, including several departmental alumni. A culminating department "scavenger hunt" (see Appendix B) requires students to converse with faculty; utilize necessary resources and technologies; and learn about important people, places, and things in the department.

Complete Assigned Work that Aligns to this Content

Besides the scavenger hunt, other graded assessments in the PY 102 course include a self-assessment of academic strengths and weaknesses and other self-assessments, content analysis of psychology web sites, completed critical thinking exercises, participation/attendance, simple papers/sections written in APA format, an O*NET paper, professional ethics discussion, and successfully utilizing various technologies. The final assignment is a synthesis of much of the course content, a paper written in APA format addressing (a) personal and professional goals, (b) a review of the student's characteristics that will contribute to and hinder goal attainment, and (c) strategies for meeting those goals in regard to a future career in psychology. The FYE course does not utilize quizzes and tests over established content, as most traditional courses usually do. Instead, it relies on written assignments, participation, discussion, introspective self-assessment, and hands-on experiences as supported by existing literature (e.g., Feldman, 2005).

Benefits of the FYE Course

The FYE course benefits the freshmen and new transfer students, the program, the faculty, and the department. Besides consistently strong teaching evaluations in the 4.2 to 4.6 range (on a scale of 1 to 5, with 5 being the best) across multiple faculty who have taught the course, students express appreciation for knowing more clearly the expectations of the

curriculum, getting to know other students, knowing the psychology faculty and their areas of specialization, involvement in the department's co-curricular activities, and understanding more clearly the employment and graduate school opportunities available after completing the baccalaureate degree. Students frequently write each semester that the course should meet longer than one hour each week and even those who eventually declare another major express appreciation for having the knowledge to make an informed decision. Through the FYE course, new students are integrated more quickly into the academic and social life of the department, sustaining the department's sense of community and promoting professional development (Appleby, 2000). Participation in student organizations and attendance at the department's social events by students new to the program increased sharply after initiating the PY102 course and PDS opportunities; another stable trend. Yet another advantage is the rapport students develop with departmental faculty members. Since the teaching of this class is discussed among multiple faculty, who rotate the instruction, the course remains consistent yet vibrant.

In short, the development of a sound first-year experience course is a win-win situation for the student, the faculty, the department, and the university. The course allows students the opportunity to cultivate important skills that complement the traditional course offerings.

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Appendix A

Common Course Components for PY102
Introduction to the Psychology Major

Week 1	Course Overview/Student Introductions/Student Organization Leader Panel
Week 2	Brief History of Psychology
Week 3	Psychology Degrees
Week 4	Undergraduate Psychology
Week 5	Doing Well in Psychology Courses
Weeks 6 & 7	APA Format I and APA Format II
Weeks 8	Guest Psychologists I
Week 9	Field Trip
Weeks 10 & 11	Psychology Ethics I and Psychology Ethics II
Week 12	Graduate School
Week 13	Guest Psychologists II
Week 14	Research and Library Skills
Week 15	The Future of Psychology

Appendix B

PY102 Introduction to the Psychology Major
Scavenger Hunt
(Note: Accompanying each item is the knowledge or skill the students learn.)

1. At the www.psywww.com/careers web site, what are three tips for making the most of your undergraduate years?
Skill: Finding information online.

2. What is the definition of the sixth word in the title of Zgourides, Spofford, and Doppelt's (1989) article printed in volume 64 of *Psychological Reports*?

Skill: Using the library resources and the journal's table of contents to find a particular article in a particular issue of a particular journal.

3. For a faculty member, write down on a sheet of paper 1) his or her name, 2) the courses he/she teaches this spring, 3) the institution from which he/she earned his/her PhD (these are the initials for the Doctor of Philosophy degree), and 4) the area of psychology he/she specializes in?
Knowledge: Learn about a department faculty member.

4. List the titles of five psychological research journals we have in the William Allen White library?

Knowledge: Awareness of psychological research journals available in the library.

5. List the titles of three psychological research journals for which the William Allen White Library has electronic subscriptions?
Knowledge: Awareness of psychological research journals accessible electronic via the library.

6a. What is the name of the company that makes PowerPoint?
Knowledge: Awareness of Microsoft software.

6b. Name two other products that this company makes.
Knowledge: Awareness of Microsoft software.

7. Using the internet, who are the invited speakers for the 2008 Great Plains Students' Psychology Convention and what are the topics of the speaker's presentation?
Skill: Finding information online.

8. On an attached sheet of paper, write down the names, hometowns, and fall 2010 schedules for five other people in the PY102 course.
Knowledge: Learning about peers.

9. On an attached sheet of paper, write the names of the students who are officers of Psychology Club and Psi Chi AND their positions. Have one of these students sign his/her name on your sheet.
Knowledge: Learning the student leaders in the department.

10. What is the day and date of the Fall, 2010 Student Research Symposium and Department-wide Luncheon?
Knowledge: When the department celebrates student research.

11. What is the room number of the Davis Lab and how many computers are in this room?
Knowledge: Where the Davis Lab is and what it is used for.

12. What does Wire Lady advertise?
Knowledge: Awareness of weekly departmental events/activities.

13. What is the title and number of one research project being posted for PY100 and PY211 students to sign up?
Knowledge: Awareness of process for majors obtaining research participants.

14. What is the room number for any of the five Smart Classrooms used by the department?
Knowledge: Learning what a Smart Classroom is.

15. Whose offices are in the bullpen?
Knowledge: Learning who the Graduate Teaching Assistants are in the department.

16. You will eventually meet Ms. MacDonald. Why?
Knowledge: Learning the department's undergraduate psychology advisor.

17. Who lives in the department's vivarium?
Knowledge: Awareness that the department maintains a colony of rats.

18. What does SPSS stand for, where is it located, and why is it used?
Knowledge: Awareness of the software for statistically analyzing data.

19. Matching--draw lines matching the people in the first column with the areas in the second.

Dr. Persinger   Industrial/Organizational Psychology
Dr. Holmes   Behavioral Neuropsychology
Dr. Grover   School Psychology
Dr. Schrader   Clinical Psychology

Knowledge: Connecting faculty to areas of specialization.

20. Name all the graduate programs that the PARM Department at Emporia State University offers.
Knowledge: Awareness of graduate school opportunities in the department.

21. When you hear Blackboard mentioned in the department, you should be thinking about
a. a place for writing with chalk
b. the material used to pin posters on during the Student Research Day
c. the place where web-based course content resides
Knowledge: Awareness of the software that enables course delivery online.

Student Engagement in Undergraduate Research

Jeffrey D. Holmes & Bernard C. Beins

Ithaca College

A Research-Based Undergraduate Curriculum

Virtually every undergraduate program in psychology requires majors to complete research-based courses. The only other course with such a ubiquitous requirement is the introductory course; in fact, no other course even reaches a 50% rate of requirement (Stoloff et al., 2010). The fact that most psychology majors must complete one or more research methods courses reflects the general agreement among academic psychologists that learning to address behavioral questions empirically is an important part of undergraduate education in psychology. Promoting student engagement in research, however, is more challenging than in many other areas of psychology. In identifying benchmarks for psychology programs, Dunn, McCarthy, Baker, Halonen, and Hill (2007) asserted that distinguished programs require students to exhibit skills in scientific research, a point reinforced by the American Psychological Association's (APA) National Conference on Undergraduate Education in Psychology (Halpern, 2010). Similarly, the *APA Guidelines for the Undergraduate Psychology Major* (APA, 2002) lists understanding and application of research methods as major goals for undergraduate education.

The curriculum in the Psychology Department at Ithaca College is oriented to meet these goals. Psychology majors complete seven required quantitative-empirical courses. The sequence begins with a laboratory course that accompanies introductory psychology, followed by statistics, research methods, psychological testing, and three semesters of original research with the same professor in a team setting. A primary objective within our department is to promote student engagement in research, both early and often.

Unique Characteristics of Our Curriculum

There are two particular components of our research curriculum that are unique among undergraduate programs. By describing them as unique, we do not mean that no other programs use such strategies, but rather that most undergraduate departments do not pursue such an in-depth approach to student engagement in research.

The first of these components is our introductory laboratory course, which our majors typically complete during their first semester in our department. This course promotes student engagement in research by getting students started early in their undergraduate careers. Students learn the basic methods of scientific research in psychology as well as the APA's standardized procedure for reporting scientific data. The purpose of this early exposure to research is to help students more fully appreciate the scientific nature of psychology and to help them recognize that scientific research comes in many forms, each with strengths and weaknesses. During laboratory meetings, students work in small groups replicating psychological studies. They collect and analyze data and then complete APA-style reports.

The second unique component of our curriculum is one in which all of our psychology majors work on a faculty member's research team for three consecutive semesters. Whereas the introductory research course initiates students to research, the research team sequence solidifies student engagement in research and allows students to participate more directly in conducting original research by identifying research questions and developing approaches to test their hypotheses. This program is primarily a vehicle for student learning, although it sometimes carries with it the added benefit of promoting scholarly development among the faculty.

We currently have nine active research teams spanning a variety of specialty areas. Descriptions of the teams and their foci are available online at http://www.ithaca.edu/hs/depts/psychology/researchteams/, and the nature of the research projects appears in Table 1. Each team comprises students in their first, second, and third semesters of research. More advanced students assume greater levels of responsibility and serve as mentors for the less experienced students. Every team has its own mode of creating and conducting research, but the shared goal is to incorporate student input so that students can develop their general research skills.

Table 1

Research Teams and Examples of Research Projects

Team	Research Example
Human Motivation: Health Psychology	The research team has already examined diabetes data from Non-Hispanic White and Native American samples, and is currently working with data collected from a Latino/a sample. Ultimately, the team will design and implement interventions based on these models of perceived responsibility in order to help people better manage their diabetes.
Cognitive Development	Two areas of focus are infant language and the impact of emotion on cognition, including the role of gestures on development of language.
Psychology of Humor	Projects include self-assessment of one's sense of humor, the relation between the Big Five personality traits and sense of humor, and the effect of priming on humor responses.
Psychology of Television and Other Media	Projects focus on television and social cognition, including how television relates to social and cognitive development in children. Current projects include studies of messages about gender, weight, and appearance on pre-teen television shows; children's understanding of selling intent in advertising; and the impact of television on false nutritional beliefs of children.
Social Judgment	This team studies how people make judgments about the self, other individuals, the personal importance of various social issues, interpersonal trust and attachment to others, the persuasiveness of stories, and the accuracy of their own judgments.
Clinical and Mental Health Research	Research for this team revolves around broad issues of mental health and abnormal psychology. Team members analyze data based on 20,000 student responses to the National College Health Assessment survey, exploring the relation between lifestyle variables and negative outcomes such as depression and eating disorders.
Developmental and Educational Psychology	This research team focuses on issues related to human development and learning. Projects involve the evaluation of educational programs, including those run by the Ithaca City School district.
Autism Treatment Team	The primary aim of this research team is to develop a novel treatment approach to assist children with autism. Projects include examining individual treatment elements that may improve the functioning of children with autism and enhance the lives of their families. Secondary topics of interest include examining the relation between positive affect and autism.
Team EPIC	The team investigates how emotion influences recognition accuracy and response bias. The team is currently updating a meta-analytic database exploring past studies on emotional memory. Future projects will include investigating the influence of list-strength effects on recognition accuracy and response bias for emotional and neutral materials.

Fortunately, Ithaca College strongly supports this research team model despite the fact that the program is costly for a number of reasons. The teams are fairly small – optimally no more than 12 students – which means that we devote significant departmental teaching resources to the program. Furthermore, the lab facilities that we devote to student research include dedicated lab space for each of the research teams. Fortunately, the college has supported development of these labs by allotting space and equipment.

The research teams enhance student engagement by creating communities among the students and a sense of common purpose. Students learn early in their experience that the success of their team depends on joint effort. Naturally some social loafing occurs, but students know they are accountable to one another in carrying out their respective tasks. Another advantage of our research team approach is that students can choose which team to join. Not surprisingly, the two clinically oriented teams receive an inordinate number of requests, but students typically end up on one of their top three choices. Students usually have a positive experience because they are researching topics of interest to them.

Outcomes

On the broadest level, the data we have collected suggest that our students' level of scientific literacy increases rather consistently as they progress through our curriculum (see Holmes & Beins, 2009). This shows that students are cognitively engaged in their research-based courses and illustrates that the courses are effective for enhancing students' ability to think scientifically.

The level of research productivity among our students is also consistently high. In the past 5 years, our students have given 121 presentations at the following professional and student conferences: Eastern Psychological Association, New England Psychological Association, Northeastern Sigma Xi Poster Conference, National Conference on Undergraduate Research, University of Scranton Psychology Conference, Eastern Colleges Science Conference, L. Starling Reid Undergraduate Psychology Conference at the University of Virginia, and the Pace University research conference. As a result of their efforts, our students have received recognition in the form of Psi Chi research grants and awards from the New England Psychological Association, the Eastern College Science Conference, and the Pace University research conference.

Perhaps most impressively, many of our students have seen their work published in academic journals. Our students have coauthored papers with faculty in

journals such as the *European Journal of Personal Relationships*, *European Journal of Social Psychology*, *Humor: International Journal of Humor Research*, *Europe's Journal of Psychology*, *Journal of Research in Personality*, and *Journal of Personality and Social Psychology*. Participating in projects that reach this pinnacle of research productivity promotes further engagement by demonstrating to students that they can succeed in challenging endeavors. Further, our alumni data indicate that approximately 75% of our graduates go on to obtain graduate degrees, which is much higher than the national average among those holding bachelor's degrees in psychology.

In addition to promoting early experience with psychological research, our introductory research course provides additional opportunities for students. For example, upper-level psychology majors who have excelled in prior years of study lead the small laboratory meetings – a unique opportunity for students at the undergraduate level. The professor, who provides careful mentoring, designs the course assignments, but the lab leaders work independently with the introductory students on the various activities. This model gives the upper-level students experience in building professional rapport with students, guiding discussions about research procedures, and helping students learn APA style. Many of the lab leaders go on to pursue graduate degrees, and they frequently report that serving as lab leaders played an important role in their later success. Further, their work with beginning students requires them to articulate why research is important. Perhaps this even leads to potential benefits from cognitive dissonance – by having to convince introductory students of the importance of research during lab activities, they end up convincing themselves (see Friedrich, 1990; Miller, Wozniak, Rust, Miller, & Slezak, 1996).

Challenges and Solutions

In spite of faculty desires to inspire students to approach psychology scientifically, many teachers and researchers have recognized that instructors often confront students who have negative attitudes about research methods. In his article on improving attitudes toward statistics, Bartsch (2006) began with a frank assessment: "Most students are apprehensive about statistics . . . and math anxiety and low self-efficacy correlate with poorer performance in math classes" (p. 197). Unfortunately, many students have similar attitudes about research methods. As Burkley and Burkley (2009) suggested, "Research methods courses typically cover what students consider dry material" (p. 179).

It is also important to remember that students vary greatly with respect to interests and motivation. One way in which this issue presents itself is in the disproportionate number of beginning students who wish to pursue careers as psychotherapists. There is certainly nothing wrong with such an objective, but such interests are not always consistent with an appreciation for the research base of psychology. Survey data from our students indicate high interest in clinical activities and lower interest in research activities. We recently asked our new psychology majors to complete the Scientist-Practitioner Inventory (Leong & Zachar, 1991), which contains a list of 21 activities typical of psychology practitioners and 21 activities typical of scientists. Of the 81 new majors, 88% reported high interest in the most straightforward clinical activity: conducting individual psychotherapy. None of the items describing research activities even approached this level of endorsement, and, overall, students reported far greater interest in practitioner activities than scientist activities. Our findings may come as no surprise to teachers of psychology, but the ramifications are potentially important: The greater students' level of practitioner interests, the lower their scientist interests tend to be (Zachar & Leong, 1992). Thus, promoting student engagement in research is likely to be more challenging than promoting engagement in activities that students already enjoy and appreciate.

Although psychology teachers have lamented students' resistance to the research enterprise (e.g., Bartsch, 2006; Burkley & Burkley, 2009), we have found that our students become highly engaged in positive ways because of the structure of our curriculum. As Saville (2011) noted from a behavioral viewpoint, students are engaged by doing. More cognitively oriented psychologists might argue that the behavior leads to engagement. Both approaches would suggest that, when students participate in research, they are, by definition, engaged. Specific elements of engagement include time on task, interacting with peers, and interacting with faculty (Astin, 1993). Our curriculum strongly promotes all of these. With the negative attitudes toward research reported by many psychology students, it seems counterintuitive that they could become engaged in the research process by experiencing constant exposure to research activity. Nonetheless, the record of student research accomplishment in our department is striking, and evidence from alumni indicates that, overall, students value their research team experience as much as any other course they take in psychology.

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Freshman Orientation Programs

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It is the week before Fall Semester, and a new crop of students is just beginning to arrive on campus. As you are well aware, your college has spent a great deal of time and money recruiting these young adults, perhaps sending personal emails or videos, making visits to their town, or sending promotional materials. These students who are about to enroll in their first classes are the outcome of a major investment; if you are assisting with a freshman orientation program, then that investment has been turned over to you to manage. You have a few days in which to engage these students – to increase their excitement at being on your campus, to ensure that they are prepared for the academic work, and to show them the ropes of the college environment. Our intention in this article is to provide suggestions for the freshman orientation program, to assist you in maximizing this investment with which you have been entrusted.

Purposes of the Freshman Orientation Program

In an era in which professors often describe college freshman as ill prepared for the college experience (Sanoff, 2006), we may think of Freshman orientation programs as a recent development. However, programs designed to introduce first-year students to the college experience prior to the start of the academic year date back to the late 1800s (Bigger, 2005). Although the emphasis on these programs waned somewhat in the early 1900s, various factors, including the increasing diversity of students, led to resurgence in the interest of the freshman experience over the last few decades. Programs throughout the years have focused on acclimating students to their new surroundings and allowing them to arrange their schedules. Although the most basic concerns remain a focus of today's programs, modern freshman orientation programs can present additional challenges and opportunities when compared to years past. The student body coming to college campuses today is much different than that of the 1880s. Students, both men and women,

arrive on campus representing all socioeconomic levels and embody diversity along a number of dimensions. As psychologists, we understand that this wide range of students can bring with it what feels like a unique charge. Yet, with the changing student population and wide disparities in preparation for college-level work, we face many of the same issues that faculty members in generations past have noted (Beins, 1992). The question remains: how can we do our very best to retain and engage those students that we meet during that short time before classes begin?

First and foremost, we believe that it is important to decide what you want for your students out of the orientation experience. Generally, the overall purpose is to acclimate students to the college experience. However, beyond that, colleges may indeed find themselves with varying conceptions of an ideal program, based on their mission and background, and the characteristics of their incoming class. The formatting of the program is another central focus. If you are at a very large state university, you may opt to split up into smaller orientation classes in order to encourage students to feel at home within that group even though they will be on a larger campus. Smaller colleges may instead encourage all first-year students to work as one group. Limited budgets and/or less affluent student populations may prompt more basic programs that take place on-campus with available resources. If your program has more substantial funding, either from the institution or through student contributions, then you could offer a larger adventure-based experience. An example of such a program is the Penn State ORION Wilderness Orientation Program, which centers on a multi-day backpacking trip. Other colleges, such as MIT, offer a variety of pre-orientation programs for freshman, where they can opt to extend the orientation experience through a variety of activities, including media studies and wellness/exercise.

Beyond being a welcoming experience to students, our view of the freshman orientation

program is that it really necessitates a primary focus on expectations. This includes the expectations of faculty and staff regarding a new level of autonomy for the student; there are also expectations of a different set of skills compared to those needed in high school. Generally, knowing the expectations that come with the role of college student allows students to be more fully prepared (Collier & Morgan, 2008). If you know what others are expecting of you, you can plan your own actions more appropriately. The remainder of the article will discuss these issues in more depth, and then present the experience of the second author with a more intensive pre-orientation option – the Pioneering Approach to Thinking (PATH) program.

Engaging the Group

Cohesion in the incoming class should be considered with regard to group cohesion of the students and cohesion with the ideals or mission of the college. Classic social psychological research supports team-building exercises as a way to encourage group cohesion (Sherif, 1966). If students can work together toward some common goal, it may increase their sense of being a part of their class. It may also be possible to fashion an activity using Aronson's jigsaw method (Aronson et al., 1978; http://www.jigsaw.org/), which allows each group member to hold some piece of information that is of use to the larger group as part of a collaborative activity. Affinity within the incoming first year class may be aided by simple icebreakers that allow for self-disclosure among students, which research has linked to increased liking (Collins & Miller, 1994).

Furthermore, your ability to engage your students can be aided by knowing your students before they arrive on campus. For example, what kinds of diversity are represented by your incoming class? A recent survey of members of the Society for the Teaching of Psychology (STP; Prieto et al., 2009) showed that a majority considered diversity an important issue of focus within their psychology classrooms. Furthermore, Kernahan and Davis (2007) reported that addressing diversity (specifically racial diversity) within the classroom can increase students' sense of personal responsibility for action. With the proper materials and training, psychology faculty may feel comfortable addressing diversity as part of freshman orientation activities. Prieto and colleagues (2009) do remind us, though, that diversity issues are sometimes neglected when the student body is made up of majority group members; even if your specific student

demographics are not diverse along certain dimensions, that is not a reason to avoid diversity as an orientation topic (for further considerations, see Kowalski, 2000).

Freshman orientation can also be a perfect time to engage students regarding the specific mission or goals of your college of university. If your college places a large value on service to the community, for instance, then perhaps a project can be included in that first day. Students might package school supplies for children in the area or speak with representatives for a local homeless coalition. For instance, Kenyon College, whose mission includes language on bettering society, offers a pre-orientation service project in which students can volunteer with projects at Habitat for Humanity and a local equine-assisted therapy program, among others. Likewise, if there is a focus on international experiences, then a presentation from students who have previously participated in the college study abroad program could effectively encourage students to plan for their own study abroad. Portland State University promotes environmental responsibility and global citizenship; fittingly, their orientation includes sessions on campus sustainability and education abroad as part of a larger set of sessions from which students can choose. These examples demonstrate a simple way for students to see what the institution values through the orientation process.

Engaging Expectations

Just as we are forming impressions of our students, they are each forming an impression of our college and what we expect from them. Thus, it seems beneficial to be very clear about those expectations, in order to elicit the best experience possible for our students. One set of expectations has to do with the change in autonomy that we expect from our incoming first year students, compared to what they were used to in their high school experience. In short, we expect freshmen to take care of themselves in a way that they might not have experienced prior to coming to college. This new responsibility extends across several areas, including health and safety issues, relationships, and scheduling.

We want each student's college experience to be a healthy and safe one. To this end, it is useful to cover a number of issues that draw largely from psychological research. Mental health issues are less stigmatized than they used to be, and most students will either experience or know someone who experiences some mental health issue during college, whether it be depression, anxiety, eating

disorders, or any number of other issues (Young, 2004). Faculty and staff can draw from an awareness of the issues on their campus in order to present information useful to the incoming class. At the very least, orientation program should include information on the services offered on campus, and orientation staff with relevant training can also present information on risky alcohol and drug use, and sexual behaviors. We can incorporate research on the positive relationship between exercise and enhanced mental health (Rethorst, Wipfli, & Landers, 2009; Taliaferro et al., 2009) to support an active lifestyle to students. Intersperse those long speaker-dominated sessions with some physical activity, encourage students in selecting physical education courses, have someone speak about intramural teams, and so on.

In addition to health considerations, we feel that sharing our expectations regarding autonomy in scheduling and time management can provide first year students with skills that can increase engagement throughout their entire college experience. This can be one of the difficult points of transition from high school to college, as students are accustomed to parents and teachers scheduling their time. A recent New York Times article (Gabriel, 2010) described how some colleges are now including "farewell ceremonies" to signal to parents the point at which students are expected to engage with the college on their own terms. Although this may seem a little extreme, it can be very useful to state early and often that students are responsible for their own educational choices. Research on self-determination theory (SDT; Ryan & Deci, 2000) supports the importance of autonomy in motivation; students who take ownership of their scheduling and time management should benefit throughout their college experience. In fact, Kitsantas, Winsler, and Huie (2008) found that students who had better time management skills and were more self-efficacious were more academically successful at the end of their first year of college. For research-supported ideas on "learning to learn" and the involvement of self-efficacy in learning, we highly recommend a recent interview with Bill McKeachie (Bembenutty, 2008); his experiences of incorporating psychological research into the learning process are a valuable resource for orientation planners.

We need to stress to students that they are responsible for their advising preparation from the very beginning of their college career. Freshman orientation can be a great time to cultivate this habit. At Wesleyan, selected upperclassmen meet with students prior to registration in order to explain the basics of the class selection process.

Thus, first year students have some sense of what they might want to register for, even before meeting with the faculty or staff member who will facilitate the registration process. In addition to mitigating time demands on a limited number of faculty members, this process also sets up an expectation for future advising procedures as it requires students required to put a certain degree of careful thought into their schedule prior to meeting with a faculty member.

Beyond general time management and advising, a focus on study skills is an important addition to freshman orientation. The most recent ACT Research and Policy Issues survey on factors related to retention (2010a-c) found that preparation for college-level work and student study skills ranked high for both the private and public institutions surveyed. Moreover, meta-analytic findings suggest that study skills and attitudes toward studying are valid predictors of later college performance (Credé & Kuncel, 2008). Taken together, these findings support the importance of study skills for incoming students. Orientation sessions can incorporate psychological research on issues relating to study skills and motivation in an effort to provide students with concrete tools. For example, we can explain how spaced studying is more effective than cramming (Cepeda et al., 2006) and that getting a good night's sleep can lead to the consolidation of memories that aids the learning process (Walker & Stickgold, 2006). Additionally, students may benefit from knowing that the way they think about their own ability can affect class preparation and performance. Across many studies, Dweck (1999) has theorized that holding an fixed view of intelligence (i.e., you either have it or you do not) is not ideal for learning, as it can prevent someone from pushing themselves academically because they do not want to be seen as unintelligent. Instead, we can advocate for an incremental view, which for students would mean that they set a goal of mastering a particular task. They might not always reach these goals, but should gain more knowledge through the process than someone who failed to take academics risks. The previously mentioned importance of self-efficacy comes into play here, too, as it has been associated with the adoption of a mastery view of learning (Hsieh, Sullivan, & Guerra, 2007).

Another common issue we have seen is that of first year students being hesitant to approach their professors. Freshman orientation presents an opportunity to address this concern, if your college or university so chooses. For instance, orientation at our small liberal arts college includes opportunities for students to meet with a number of

faculty members outside of the classroom in a more relaxed environment. Such faculty participation in the orientation process is considered a "best practice" for retention (Braxton, Brier, & Steele, 2007), and faculty-student rapport can also serve to increase student interest in the classroom (Buskist & Saville, 2004). Even if faculty members are not available to participate directly with orientation, recent research (Legg & Wilson, 2009) suggests that even a well-timed email might aid in building rapport.

PATH: An Extended Program for Student Success

Because of the increased rate of dropout in the first year, colleges and universities are introducing specific systems and practices aimed at supporting the first year student as he or she transitions to college. Most withdrawal occurs within the first year of study (Barefoot, 2004; Tinto, 2002; Yorke, 2003). Because higher education is becoming more accessible to a diverse population of students, the strategies for reaching new college students are evolving. Just as recent years have presented an increased focus on first-year programs in general (Barefoot, 2004), there has also been an increased emphasis on programs tailored by colleges to meet the needs of specific students. Wesleyan College has recently instituted one such program. The Pioneering Approach to Thinking (PATH) is a first year bridge program aimed and providing specific academic insight to those students who have been identified as high risk.

The PATH program is a week-long seminar that is designed to address many of the academic pitfalls that plague first year college students including time management, increased academic rigor, and an overall lack of understanding about the college model of learning. The PATH members address these issues by participating in a simulation of a typical week of college. PATH students attend content-themed classes, complete pre- and post-class homework, experience simulated distractions and temptations, and benefit from reflection on each activity and on themselves as learners. A welcomed by-product of this program is a unique cohort of individuals who experience a bond that provides support and motivation throughout the first year. During the 2009/2010 academic school year, Wesleyan College admitted 14 first year students into its pilot bridge program. Of those 14 students, 100% persisted to the second semester and 13 of 14 returned for the sophomore year (Fowler, Gibbs, & Rouleau, 2010). Students cited better

academic preparation and improved study skills as perceived reasons for success. Furthermore, most of the students were enthusiastic to serve as peer mentors to the 2010/2011 cohort of PATH students.

In order to evaluate the success of the PATH program, Wesleyan College implemented several assessment measures. Grade reports, an established student support team, a pre/post assessment, a control group for comparison, and monthly focus groups with participants provided data to use in the assessment process. Among other findings, students in Wesleyan's PATH program earned an average GPA that was slightly higher that the predicted GPA of the group (2.53 vs. 2.15; range of .075 - 4.0). These results, combined with very positive written and oral feedback, provide preliminary support for the program as a viable resource in promoting academic success and decreasing attrition (Fowler, Gibbs, & Rouleau, 2010).

Many colleges and universities offer summer bridge programs designed to address those academic and transitional issues that are likely to affect the success of at risk students. These intervention programs can be costly in terms of personnel and monetary resources. Wesleyan's PATH program is designed to create a realistic and rigorous, but brief, simulation of the college experience aimed at providing a solid foundation on which to build in the first weeks of college. A healthy collaboration between student affairs and academic affairs provides the student with a knowledge of instutional resources that support college success. Armed with this newfound knowledge, the student is better equipped to handle the many obstacles that face all first time college students, especially those that have been conditionally accepted to the institution.

The ever changing nature of first year college student has forced colleges and universities to closely examine their processes and policies in order ensure that all students have clear expectations with regards to the college experience. Mackie (2001) suggests that the factors affecting first year students fall into four categories: social (friendships, social integration, and loneliness), organizational (academic confidence, and connection to the institution), external (finances and independence), and individual factors (self-doubt, parental support, homesickness, and personal control). Wesleyan's PATH program provides at risk students the opportunity to address those common pitfalls plaguing the first year student. Summer bridge programs can and do allow colleges to cater to students who are most in need of extra assistance. The cost of such programs should not

be a deterrent because a cost-effective method can be implemented if there is adequate support from academic affairs and student affairs. Summer bridge programs, whether they be a full semester or just a week long, can provide the necessary skills and mindset that translate to academic success in the first year. Failure to live up to perceived academic expectations is a strong catalyst for student departure (Barefoot, 2004). Tinto (1997) suggests that programs that support and promote adjustment difficulties, goal setting, commitment to college, and financial obstacles are paramount as well. Wesleyan's summer bridge program is an example of one institution's attempt to address unrealistic expectations and provide a real academic experience early so those students most at risk of attrition are exposed to the college environment

Conclusions

Each student beginning his or her first year at college represents an important investment, and one of the best ways to care for that investment is to engage incoming students. Engagement can lead to increased retention, as well as adding to the overall academic and social experience of the student. Freshman orientation programs often serve as the first point of focus for student engagement. Therefore, faculty and staff charged with developing freshman orientation programs should carefully consider the efficacy and purpose of the activities that they choose to include. We recommend that the expectations of the college for students be a primary focus; students who have a better understanding of the values and mission of the college may experience a smoother transition to college life. Autonomy in scheduling and health behaviors are also key areas that could be part of a well-rounded orientation experience. We also believe that students who see their professors in a less formal setting prior to the start of classes might be more likely to approach them later on in the semester. Finally, students who need additional experience in preparation for college may benefit from pre-orientation bridge programs, such as the PATH program.

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School in Your Skivvies: Lessons Learned on Promoting Student Engagement in a Virtual Versus Traditional Classroom Setting

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Today's student is simultaneously taking 18 hours, perhaps at different campuses, holding down a job, volunteering at different community sites, and maintaining an active social life. Students who commute from other cities find it difficult to attend classes on campus every day and would therefore benefit from either online or blended courses. As Dziuban, Moskal, and Hartman (2005,) observed: "Many of today's college students are non-traditional, attempting to balance family, jobs, and university life. Coming to campus is often difficult for many of them and, through reducing the number of face-to-face hours required, blended learning can help them meet this challenge" (p. 89).

Students today are also at the cutting edge with respect to technological advances. Indeed, one can no longer stroll through campus without being surrounded by the buzz of communication generated by students texting on their cell phones, listening to podcasts on their MP3-players, or surfing the web on their iPhones. Similar to the issues voiced by some regarding commuting to campus, students are also craving technology in the classroom. To meet the needs of students, colleges and universities have relied more heavily on course offerings that move away from the traditional, face-to-face classroom setting. Blended learning, also called hybrid learning, is set apart from other classroom formats in that it involves a balance of online and face-to-face interaction as well as thoughtful sequencing of activities to achieve a truly integrated learning experience (Dziuban, Moskal, & Hartman, 2005).

Previous research (Graves & Twigg, 2006; Rovai & Jordan, 2004; Sands, 2002) has indicated that distance learners in general preferred the blended format better than true distance/online courses they had completed and that on-campus learners reported benefiting from the online social interaction offered in the blended courses.

Blended Learning as a Teaching Strategy in Higher Education

Historical Background

Although it has been argued that blended learning is distinguishable from the enhanced classroom and the fully online learning setting (Garrison & Kanuka, 2004), it is unclear how much or how little online learning is inherent to the blend. As Osguthorpe and Graham (2003) reported, the balance between online and face-to-face components varies from course to course, with no two courses being exactly the same. According to Kerres and de Witt (2003), the concept of blended learning comprises the mix of different didactical methods (e.g., expository presentations, discovery learning, cooperative learning) and different delivery formats (e.g., personal communication, publishing, broadcasting). Similarly, Young and Duhaney (2008) state, "any teaching and learning situation which incorporates the traditional face-to-face approach with the use of the synchronous and/or asynchronous format and the utilization of different pedagogical approaches, is a hybrid learning environment" (p. 36). Hence, a blended course design can lie anywhere between fully face-to-face and fully online learning environments (Rovai & Jordan, 2004). Various authors agree that more important than the percentage of time spent online/offline is the effort put forth to engage students in activities that will encourage active learning in both online/offline educational settings (Dziuban, Moskal, & Hartman, 2005).

Concerns and New Directions

Although offering blended courses is clearly warranted due to the aforementioned circumstantial demands, taking a blended learning class is still

perceived as a risky choice by students, parents, teachers and administrators alike: The student is concerned about having enough contact time with the instructor to learn the material. The parents wonder why they pay tuition fees for their child to sit in front of a computer rather than be in a classroom. The teacher asks why he/she should spend time and effort on designing and implementing blended learning classes, if the end result could potentially be inferior to the less time-consuming work-to-rule class. Consequently, the administration faces challenges in change management and often lacks the support to offer blended courses.

In an effort to address these issues, we designed a study that would seek to prove that blended or hybrid courses can be just as effective for students as the traditional in-class format, while providing additional benefits to students, faculty, and administrators (Villanueva, Panke, & Osment, 2008). The purpose of our investigation was to address specific issues and concerns that students, administrators, and parents have when deciding whether to take, or offer, a blended versus a traditional course. Although empirical data tell otherwise, the general expectation has been that a blended or online course necessarily means poorer instruction, poorer relationships between students and instructor, less student engagement, and poorer performance in the class. We hypothesized that the results from this study would show little or no difference between the two teaching methods and will alleviate those concerns by producing results from an empirical, scientifically based investigation.

The primary goal of the study was to create two very similar learning environments, changing only the variable of face-to-face and online instruction. The instructor took great methodological care to ensure that both classes were on the same topic at any given time during the semester, and that they had exactly the same material presented, the same instruction, the same assignments, and the same guest speakers and videos. As such, both sections of the class used the same technology in the classroom. Lectures were pre-recorded using Camtasia software and posted to the class Blackboard site. Students were expected to have viewed the lecture, complete the assigned readings, and meet online for the weekly class discussion. Both sections had comparable sample sizes and sample demographics. As hypothesized, results from this investigation indicated that students reported having strikingly similar learning outcomes in a blended learning course as in a traditional classroom setting. The study revealed no significant differences between the two delivery modes. As Young and Duhaney (2008) have pointed out, comparative studies are needed to evaluate the effectiveness of blended learning. In our research design, we set out to decide if blended is as effective as traditional teaching, and we found evidence that the answer is a resounding "yes."

Benefits and Challenges to Blended Learning Format

What are the benefits and challenges of blended learning in higher education? Vaughan (2007) gives a comprehensive overview from the perspective of students, teachers and administrators by summarizing various reports from different universities.

Similarly, our study uncovered benefits as well as challenges and lessons learned for all involved. As mentioned previously, students were to 'attend' a weekly online class discussion in which the instructor would engage them in questions regarding the readings, lecture, and examples. Initially, students were a bit hesitant to participate. However, there were several incentives for them to contribute to the discussion: First, it was part of their grade. A teaching assistant would be online during the discussion marking which students would comment or ask questions and how many times this occurred. If this were not incentive enough, students would be called out by name to ask for their opinion on a discussion topic. Just as in the typical classroom setting, a student clearly does not want to be called upon and not have the answer. Our virtual class discussions were interactive. Students knew that they had to prepare to engage and ultimately appreciated this expectation at the end of the semester, given their feed back.

Students' reactions to taking the blended course were overwhelmingly positive. Their comments fit into one of three general categories: convenience, comfort level, and technology. Many students really appreciated being able to attend classes without leaving their families, their homes, or even their jobs. Several students also commented on the fact that the virtual setting made them feel much more comfortable in participating when compared to a face-to-face classroom setting. Last, some students admitted to being hesitant about taking the blended course because of their lack of technological knowledge. These same students concluded that they were pleasantly surprised at the ease and availability of the material presented (i.e., online lectures) and the synchronous online class discussions. These successes did not occur by chance. In fact, a significant amount of upfront work was done by the instructor and the instructional technology department to achieve the goals of smooth transitions, student understanding, and clear

communication. Further discussion on this and other issues will be addressed in the *Lessons Learned* section of this chapter.

Faculty experienced benefits and challenges as well. One clear benefit is that in order to stay ahead of the technological curve, instructors are forced to learn all of the latest technologies involved in offering blended/online coursework. For example, pre-recording lectures and presenting them in a virtual setting while holding a live discussion with students takes much time, skill and organization. Further, when the virtual lecture is successfully presented along with intermittent discussion, students appreciate how seamless and engaging the class is. In sum, teaching blended courses becomes of great heuristic value in adding to one's pedagogical repertoire. Another benefit for faculty is that being able to use the technology involved in blended learning provides them with more collaborative opportunities. Instructors can, for example, co-teach courses across different campuses; they can work on projects with other faculty members or students; and they can also engage with other faculty to offer cross-disciplinary courses. The challenges that faculty face in offering blended courses primarily center around time. As previously stated, if set up correctly, a blended course can be just as effective, if not more effective in meeting students needs while conveying the intended content. However, the caveat is that in order for a course to be 'set up correctly', significant amounts of time and effort must be put forth toward the organization of the course way before the semester even begins. That being said, once a course is set up, subsequent semester should require less effort. Further, the instructor must stay in constant contact with both his or her Instructional Technologies support team as well as his or her students throughout the semester. Some instructors of blended courses have commented that teaching a truly successful blended class is very rewarding for students, yet challenging and very time-consuming for them as instructors. Having taught several blended courses myself, I agree that while doing a good job on a hybrid offering can be challenging and time-consuming, it can be rewarding for both students as well as instructors.

Finally, offering blended courses can be of great benefit to the teaching institution itself. This, of course, is of great interest to administration. Providing students with hybrid courses gives the institution the ability to provide little or no limitation to students. What we mean by this is that the institution can now reach more students both in and out of its own community. Students from surrounding communities can now take on the challenges of continuing their education while also contending with a job, families, and other common life circumstances by having more accessibility to the instructors and material online. The host institution also benefits from lessening the burdens of traditional classroom issues: seating, space, etc. An institution, for instance, can have two separate courses, with two separate instructors share the same class space. When one is online the other is in class and vice-versa. This method of conveying information online without travel or 100% person-to-person contact is a very efficient and innovative approach that can have real, practical implications. An 'offer more for less' method that would not cost the university an additional dime. And this, of course, is an undeniable benefit to all.

Lessons Learned

Soldier and poet Albert Pike once said, "That which causes us trials shall yield us triumph…" After discussions with professors at various teaching conferences, and after going through the experiences of teaching blended courses myself, the overall conclusion is that trial and error seem to be a part of the entire process. Everyone does what works for his or her class, for his or her students. There are, however, general conclusions on the *do*s and *don't*s of blended and hybrid courses.

Experiential as well as anecdotal evidence from instructors all over the globe supports the idea that spending more upfront time before classes begin to organize the online procedures, to test the software/hardware, to make sure everything is in working order before going live with your class is well worth the effort. Preparing well in advance not only with the technology, but also with the IT team, the teaching assistants, and so forth is time well spent. In the end, classes will run more smoothly and communication and content will be more seamless for students. Students in my class were given unlimited access to me, the instructor, to each other, and to the class T. A. They were encouraged to report any issues with technology or content, they were also encouraged to ask any questions or discuss any concerns. Contrary to what is expected of blended courses, this virtual 'open door' policy lead to a teacher-student relationship that was open and productive, which is in direct contradiction to the typically negative expectations of blended and hybrid courses. So, for the list of *Do*s and *Dont*s:

DO:
- Take the time to organize and prepare your class well before semester begins.
- Hold plenary meetings before semester with IT staff about software and hardware requirements.

- Meet with class Teaching Assistant to make sure he/she is 'up to speed' with technology, course content, course expectations, online/offline, communication.
- Contact students before semester begins via email to give a heads-up on what to expect from your blended course and what to prepare in advance.
- Make sure to make clear to everyone, including yourself, what exactly "blended" means for your class (i.e., how many face-to-face meetings versus online group discussions, etc.).

DON'T:
- Absolutely DO NOT wait until the last minute to start organizing your class.
- Assume that all the technology works and that it is all the same as last semester.
- Go into the semester without having practiced the online or virtual portions of the class (i.e., recording lectures, meeting online, uploading videos, etc.).
- Forget to meet with your IT team and TA before the semester.
- Underestimate the amount of time it will take to prepare the course, and how much time and effort it will take to run smoothly.
- Fail to communicate with students. They will not see you all of the time, so you must nurture the relationship in other ways.

Discussion

Web-based technologies are quickly becoming the medium of choice in instructional methods as most universities move more course offerings off campus and online: "although online learning is not a mainstream activity in most higher education institutions, it is offered (in one form or another) by many, if not most, of these institutions" (Kreber & Kanuka, 2006, p. 110). This is a reality that we must take into consideration. More salient is the fact that offering or taking a blended learning class is still perceived as a risky choice by students, parents, teachers and administrators alike: The student is concerned about having enough contact time with the instructor to learn the material. These issues are real and must be addressed both in the classroom and in the research arena. Our research was aimed at proving that blended or hybrid courses could be just as effective and well received as a traditional face-to-face class. Our conclusion was an unequivocal endorsement of the benefits of blended offerings.

Beyond mere replication that blended formats can keep up with the traditional face-to-face classroom format, my intention in this chapter was to share best practices and lessons learned with faculty who are seeking new ideas in how to meet students' needs and get them engaged online. Several suggestions were offered and future considerations should include newer technologies that can be used to help us to make education exciting, innovative, accessible, and engaging.

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Interteaching: A Behavior-Analytic Approach to Promoting Student Engagement

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There has been much discussion over the past few decades regarding ways to improve higher education in the United States. During that time, teachers, researchers, administrators, and policymakers alike have attempted to identify the factors that predict which students will excel during their time in college and which students will, unfortunately, fall by the wayside (e.g., Astin, 1973, 1975, 1977, 1993; Chickering, 1969; Chickering & Reisser, 1993; Kuh, 2001; Pascarella & Terenzini, 1991; Umbach & Wawrzynski, 2005). In short, the factors that predict success in college are varied and sometimes elusive (Astin, 1993; Pascarella & Terenzini, 1991). Nevertheless, one factor that seems to pop up repeatedly in studies of college-student success is student engagement.

Student Engagement: A Brief Review

The systematic study of student engagement began in the late 1960s when Arthur Chickering and Alexander Astin first put this topic on the educational map (see Kuh, 2001). In the four decades that have passed since Chickering and Astin's seminal work, researchers have spent considerable time and effort attempting to understand what student engagement entails and how it affects the college experience (e.g., Appleton, Christenson, & Furlong, 2008; Astin, 1993; Carini, Kuh, & Klein, 2006; Chickering & Gamson, 1987; Pascarella & Terenzini, 1991; Steele & Fullagar, 2009; Wolf-Wendel, Ward, & Kinzie, 2009). In its simplest form, student engagement refers to the "the amount of physical and psychological energy that the student devotes to the academic experience" (Astin, 1984/1999, p. 518). As Astin further noted, "[Student engagement] is not so much what the individual thinks or feels, but [rather] what the individual does, how he or she behaves" (p. 519). Thus, student engagement entails doing. By this definition, then, students who spend more time or effort doing important educational activities are more engaged in college than students who spend less time or effort on these activities, regardless of how these students think or feel about their academic experiences.

Since Chickering and Astin first discussed student engagement over 40 years ago, researchers have shown repeatedly that engagement strongly predicts college-student success. In fact, Astin and other researchers (Astin, 1993; Pace, 1984; Pascarella & Terenzini, 1991) have found student engagement to be the single biggest predictor of success in college. By deduction, then, students who spend more time engaged in academically important activities are likely to experience greater success than their less-engaged peers—a premise that has important implications for educational administrators hoping to increase student success by implementing university-wide policies (see, e.g., Astin, 1984/1999). What exactly, though, are these academically important activities? In a comprehensive, longitudinal study of over 200 institutions of higher education, 20,000 college students, and 25,000 faculty members, Astin (1993) identified three general types of engagement that seem to have a positive impact on college-student success: time on task, interacting with peers, and interacting with faculty. As such, students who spend time on campus, get involved with student organizations, interact frequently with peers and teachers, devote time to studying, and so on, are more likely to experience success than students who engage in fewer of these activities.

In addition to providing guidelines for educational administrators, Astin's (1993) theory of student development provides a nice framework for understanding how teachers can have an impact on their students' success. Specifically, the best way for teachers to affect student success is by finding ways to increase their level of engagement—that is, the amount of time they spend interacting with course material, with other students, and with their teacher.

How exactly, though, might teachers go about increasing the extent to which their students are engaged? Although many modern-day psychologists believe that the best way to modify behavior is by changing its covert precursors—namely, how people think and feel—there is another approach to changing behavior that has been around for well over 50 years, an approach that falls squarely in line with Astin's

(1984/1999) notion that student engagement is best understood not by focusing on students' thoughts or emotions, but rather by focusing on their behavior. This approach, known as behavior analysis, has its roots in B. F. Skinner's (1938, 1953, 1974) seminal research and centers on the notion that behavior is important subject matter in its own right. Behavior analysts believe that behavior is a function of past experiences, present conditions, and genetics. But because behavior analysts have little ability to modify a person's past experiences or genetic make-up, they instead focus their efforts on modifying the current environmental conditions—the contingencies of reinforcement—that affect behavior. Such an approach has been successful in changing many socially important behaviors (see, e.g., Baer, Wolf, & Risley, 1968; Cooper, Heron, & Heward, 2007).

Interteaching

Beginning in the 1950s, behavior analysts began to apply principles of learning in non-laboratory settings, some of which included classrooms. Skinner (1954/1999), along with other behavior analysts, lamented that most teaching environments did not contain enough positive reinforcement and that teachers instead invoked too many aversive consequences to get students to "do what they should." In response, Skinner (1968) and others (e.g., Engelmann & Carnine, 1982; Keller, 1968; Lindsley, 1964) developed behaviorally based instructional methods that focused on modifying the environmental conditions that most strongly affected student learning and enjoyment. These methods gained popularity in the 1960s and 1970s and proved repeatedly to be more effective than traditional teaching methods (for a review, see Moran & Malott, 2004). Nevertheless, for a variety of reasons, few teachers continued to use these methods in their classrooms (see, e.g., Binder & Watkins, 1990; Buskist, Cush, & DeGrandpre, 1991).

More recently, Boyce and Hineline (2002) introduced interteaching, a user-friendly alternative to earlier behavior-analytic teaching methods. In accordance with earlier behavior-analytic teaching methods, interteaching focuses on rearranging the environmental conditions that most strongly affect learning. In contrast with earlier behavioral teaching methods, though, interteaching might be easier for college teachers to implement in their classrooms.

A typical interteaching session occurs as follows. Several days before each class, the teacher distributes (often via a course web page) a preparation, or "prep," guide, the purpose of which is to guide students through a reading assignment. Typically, every prep guide consists of 8-12 items, each of which might contain one or more related questions. The questions are based on material in the reading assignment and are designed to get students to think actively about the course material before coming to class. The questions usually require students to define, analyze, apply, and synthesize course material (Anderson & Krathwohl, 2001), and the prep guide may cover anywhere from 5-20 pages of material, depending on the goals of the teacher, the time of each class period, the complexity of the material, and so on. Prior to class, students complete the prep guides to the best of their ability, with the knowledge that they will be discussing their answers in class with a partner.

Each class period begins with a clarifying lecture given by the teacher and ends with students discussing the prep guide they completed for that day. During the lecture, which lasts approximately one third of the class period, the teacher covers material that students discussed during the previous class period (e.g., a lecture on Thursday covers material that students discussed on Tuesday). More specifically, the teacher reviews those prep-guide items or topics that students found most confusing or for which they requested further elaboration (see below); the lecture might also contain any supplementary information that the teacher wishes to present. After the lecture, students form pairs and spend the rest of the class period discussing the prep guide they completed for that day. During the pair discussions, the teacher moves around the room, answering questions and guiding students' discussions. (Some readers might be wondering how to handle the discussions in large classes, where getting to every pair might be difficult. In these cases, a teaching assistant can be helpful. But teaching assistants are not necessary for interteaching to work. When the teacher is unable to get to every pair or answer every question, he or she can simply review the record sheets [see below] and address students' questions during the next lecture. I have used interteaching in classes ranging from 10 to 80 students, both with and without teaching assistants, and have had little trouble implementing the method.) Once students have completed their discussions, they complete a record sheet, on which they list their partner's name (or partners' names, if they worked in a group of three), how well their discussion went, which prep-guide items were difficult to answer, and which items they would like the instructor to review or provide elaboration. The teacher then uses the record sheets as a guide when constructing the next clarifying lecture, which begins the subsequent class period and precedes the next pair discussion.

There are also other components to interteaching (for a more detailed explanation of these components,

see Boyce & Hineline, 2002; Saville, Lambert, & Robertson, 2011). First, for each discussion students complete, they earn a small number of points toward their course grades. Second, the teacher should give frequent exams (i.e., at least five per semester) and should consider dropping the lowest score. Boyce and Hineline suggested that dropping one exam score gives students the opportunity to become accustomed to interteaching. In addition, the exams should be closely tied to the prep-guide material. Finally, Boyce and Hineline (2002) recommended that students should receive "quality points" based on both their and their partners' exam performances. In essence, the quality-points component of interteaching represents a cooperative contingency in which part of each student's exam score depends on how well his or her discussion partner answered certain exam questions. Boyce and Hineline proposed that including such a contingency should motivate students to have thorough pair discussions. At least one study, though, suggests that the quality-points component of interteaching, as described by Boyce and Hineline, may not have a meaningful impact on some measures of student learning (Saville & Zinn, 2009).

Interteaching and Student Engagement

As noted earlier, interteaching, along with all behavior-analytic teaching methods, focuses on modifying the environmental conditions that affect what students do: their studying, their class attendance, their interactions with other students, their interactions with teachers—in other words, their general level of engagement. As Astin (1993) noted, three types of engagement are most predictive of student success in college: time on task, student-student interactions, and student-faculty interactions. The contingencies of reinforcement that are inherent in the interteaching method seem to have a positive impact on each of these types of engagement.

First, relative to more traditional teaching methods, interteaching seems to increase time on task. Prior to each class, students complete a prep guide that requires them to read course material and think about the items contained on the prep guide. Once in class, students spend additional time discussing the items with a partner. Finally, most students spend additional time reviewing the material before exams (although many of my students have reported that they study less before the exams because they have already spent so much time reviewing the material). Thus, with interteaching, students are likely to engage the course material at least three different times prior to each exam.

Second, compared to traditional teaching methods, students in interteaching-based classes are more likely to interact with one another. As noted above, approximately two thirds of each class period is devoted to pair discussions in which students talk about prep-guide items with another student. Certainly, other teaching methods (e.g., group discussions) can produce student-student interactions, but as many teachers know, getting all students involved in these discussions can be difficult, especially in large classes. With interteaching, though, the pair-discussion component nearly assures that all students will be actively discussing the material during a large portion of each class period.

Finally, interteaching increases the frequency of student-faculty interactions. In lecture-based classes, interaction typically occurs when students ask or answer questions. Often, though, the number of students who participate and interact with their teacher is small, especially in larger classes where diffusion of responsibility is likely to occur. In contrast, with interteaching, teachers spend approximately two thirds of each class period moving among pairs, answering questions, and guiding students' discussions. The increased frequency of these interactions makes it more likely that teachers will have a chance to build rapport with their students and have the kinds of meaningful interactions that seem to have a positive effect on learning.

In summary, relative to more traditional teaching methods, interteaching seems to increase time on task, student-student interactions, and student-faculty interactions, three types of student engagement that Astin (1993) found to be primary predictors of success in college students. Theoretically, then, interteaching should produce increases in student success relative to more traditional teaching methods. A growing body of evidence supports this notion.

Research on Interteaching Student-Learning Outcomes

Boyce and Hineline (2002) provided anecdotal evidence in support of interteaching's efficacy but urged researchers to study this new behavior-analytic teaching method more systematically. In the first experimental analysis of interteaching, Saville, Zinn, and Elliott (2005) conducted a lab-based study in which they randomly assigned college students to one of three experimental conditions: interteaching, lecture, or reading. Students in the interteaching condition completed a prep guide over a brief journal article, discussed the items with a partner, and then heard a brief clarifying lecture; students in the lecture condition heard a lecture over the same material; and

students in the reading condition simply read the article. Students from each of these conditions, along with students in a control condition who had no exposure to the material, returned to the lab 1 week later to take a 10-item, multiple-choice quiz. Saville et al. observed that students in the interteaching condition performed significantly better on the quiz than students in the other conditions. Moreover, there were no significant differences in quiz scores among students in the other three conditions.

In a subsequent study, Saville, Zinn, Neef, Van Norman, and Ferreri (2006) compared interteaching to lecture in a graduate-level special education course (Study 1) and in two sections of an undergraduate research methods course (Study 2). In Study 1, students first took pretests over course material prior at the start of the semester to establish a baseline level of knowledge. Saville et al. then alternated between interteaching and lecture several times throughout the semester, ending each class period with a quiz over the same material on which they had been pretested. Overall, the difference in pretest and posttest scores was greater following interteaching sessions than following lectures. In Study 2, Saville et al. alternated between interteaching and lecture several times throughout the semester and counterbalanced the order of presentation across two sections. After each unit of information, students from both sections took the same exam. Across six exams, students in the interteaching condition performed about 10 percentage points better, on average, than students in the lecture condition.

In addition to more typical student-learning outcomes, such as quiz and exam scores, a few researchers have also examined the extent to which interteaching improves critical thinking. Saville, Zinn, Lawrence, Barron, and Andre (2008) exposed students in two sections of a research methods course to both interteaching and lecture. At the end of the semester, students completed Ferrett's (1997) inventory of critical thinking, on which respondents self-report the frequency of various behaviors associated with critical thinking (e.g., asks relevant questions, admits lack of understanding, changes one's mind when learning new facts). On 10 of the 15 inventory items, students in both sections reported that they were more likely to engage in the behavior during interteaching sessions. Scoboria and Pascual-Leone (2009) subsequently compared lecture to a modified version of interteaching in several sections of a large abnormal psychology course. They found that students in two interteaching-based sections performed significantly better on writing assignments that assessed critical and analytical thinking than students who had completed the same assignments in a prior lecture-based version of the course.

Student Enjoyment

In addition to producing superior exam scores and better critical thinking, interteaching increases student enjoyment. Saville et al. (2006), for instance, asked students in both of their studies to report which teaching method they preferred. In both the graduate-level special education course and the undergraduate research methods course, a majority of students reported that they preferred interteaching to lecture. Similarly, Scoboria and Pascual-Leone (2009) found that most students in their abnormal psychology courses preferred having more discussed-based (i.e., interteaching) classes. Goto and Schneider (2009) also evaluated the utility of using an interteaching-based format in nutrition science courses. As in previous studies, they found that most students enjoyed interteaching and reported that it helped them prepare for class, think more critically about the course material, and understand complex scientific concepts.

Summary

A growing number of studies have provided evidence that student engagement may be an important factor—if not the single most important factor—of success in college students. Astin (1993), in a comprehensive study of over 20,000 college students, observed that three specific types of student engagement—time on task, student-student interactions, and student-faculty interactions—best predicted which students experienced success in college. Thus, finding ways to increase student engagement is likely to be a worthwhile task for college teachers. Interteaching, which has its roots in the behavior-analytic tradition, is a new teaching method that seems to have a positive effect on student engagement. A growing body of evidence suggests that students who experience interteaching receive better exam scores, think more critically about the material they study, and enjoy their classes more than students who experience more traditional teaching methods. Teachers who are looking for ways to increase student engagement might do well to give interteaching a try. In addition to finding students who are more engaged and experiencing increased levels of success, teachers might just find themselves more engaged as well.

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The *Democratic Academy*:
Pedagogies for Student Engagement

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Authors have written much over the past 15 years about the precipitous decline in civic and political engagement among American college-age students (Ehrlich, 2000; Sax & Astin, 1997; Astin, Parrott, Korn, & Sax, 1997). The historically low 18.5% voter turnout in the 18-24 age group in the 1998 Presidential election seems to have sparked the current interest in the topic, but in fact, voter participation as a whole had been declining since the 1960's (Putnam, 2000; Verba, Schlozman & Brady, 1995). Even though Barack Obama was able to energize this age group to turn out and vote for him, it is far from clear that participation in that one election will have sparked a habit of civic and political engagement among those youth. For those of us involved in educating college students to be the next generation of leaders, this low rate of voter participation presents a particular challenge: What can we do to promote civic participation in our students? What, if anything, can we do to reverse the trend and promote civic and political engagement in our students?

It was in part the very low voter turnout in the 1998 Presidential election that prompted Cedar Crest College to design a curricular program to develop and deepen civic and political engagement among students. In the design process, the key question was raised: Is the lack of active participation in civic and political life among students connected to the lack of active participation by students in the classroom? Virtually anyone who has taught at the college level has encountered the frustrating passivity of many students. Despite the best efforts of fine professors, more and more students, it seemed, felt that all they needed to provide in the classroom was the presence of their bodies: sitting passively, perhaps listening and perhaps not, they waited for the infusion of knowledge to begin. They looked to their professors as the ultimate source of power and authority, and seemed afraid to raise questions and take any control of what they were learning. If students approached their education so passively, is it any wonder that passivity would extend to public life?

The result of the initiative is *The Democratic Academy*. It combines a theoretical framework that articulates the practices and pedagogies that have proven effective in producing active learners and engaged citizens (Becker & Couto, 1996), with curricular and pedagogical materials to help colleges institute the theoretical framework. Many of the practices and materials the project gathered came from colleges and universities across the country. The power of the project is in placing those best practices in the context of a concerted effort to promote student engagement.

The Democratic Academy promotes the institution of pedagogical practices across the curriculum, each belonging conceptually to one of three stages, reflecting the journey from passive learner in an ivory tower to active participant in the broader world. The three stages center on nurturing three different types of civic engagement: classroom engagement, community engagement, and political engagement, codified in the *Democratic Academy* as the Classroom Engagement Module, the Community Engagement Module, and the Political Engagement Module. We believe that there is a progressive relationship among these different forms of engagement—that being deeply engaged in the classroom can lead to a deeper engagement in one's community and that a deep engagement in one's community can lead to deeper engagement in the political process and the political life of the community. The goals and techniques associated with each stage can be incorporated into existing college courses, or given new emphasis where they have previously been only implicit, to nurture the student's transition from passive learner to active learner, from disengaged citizen to engaged citizen. Given enough exposure to courses embracing this pedagogy, we are confident that students will emerge from college more willing and prepared to engage in the issues of importance to their communities.

Assessment Method

In order to assess the effectiveness of the curricular program, over 50 instructors from four institutions test-taught and evaluated the *Democratic Academy* instructional modules during the 2002-2003

academic year. The goal of the research was to assess the impact that pedagogies of engagement can have upon student attitudes toward the importance of engaged citizenship. We also believed we would find an increase in the sense of efficacy that students express in regard to the civic skills essential to the practice of participatory democracy. We believed that when faculty employ instructional techniques expressly dedicated to the promotion of student engagement, they can have a significant effect on the value and confidence that students express in regard to both civic engagement and participatory democracy. Paolo Freire, among others, had documented the link between educating engaged students and producing engaged citizens (Freire, 1973).

The cumulative assessment study was dedicated to the investigation of two core hypotheses:

H_1: Students who complete a course utilizing the instructional techniques associated with a Classroom, Community, or Political Engagement module will express a greater appreciation of the value and significance of civic engagement than students who were not enrolled in a *Democratic Academy* course.

H_2: Students who complete a course utilizing the instructional techniques associated with a Classroom, Community or Political Engagement module will express a greater sense of efficacy in regard to civic skills than students who were not enrolled in a *Democratic Academy* course.

In order to contrast the attitudes and skills of students enrolled in these courses with the general student population, we administered a baseline survey on civic engagement at each institution. The baseline survey consisted of closed-ended questions that captured student experiences, attitudes and skills relating to civic engagement and political participation. Students enrolled in a *Democratic Academy* course completed a survey at the beginning of the semester and again during the last week of classes. We also administered the baseline survey at the beginning of the semester and again during the last week of classes to a random sample of students who were not enrolled in a *Democratic Academy* course during the semester. This survey, conducted at each of the partnering institutions, provided an institutional profile of the general student population's attitude toward civic engagement.

The hypotheses predicted that students enrolled in one of the instructional modules of the *Democratic Academy* course would be qualitatively different at the end of the course than students who were not enrolled in such a course. This proposition implicitly makes a claim about the impact of the project's instructional techniques, i.e., the three modules. In general, the survey data provide empirical evidence in support of that claim. We described the three modules and their findings below.

Results

Classroom Engagement Module

The **Classroom Engagement Module** (or **Democratic Classroom**) employs a number of tested and effective pedagogical practices to help students become more responsible and accountable for their own actions and needs within the classroom. Key to students being able to take on more responsibility for their own education is overcoming their passivity in the face of authority. We maintain that the best way to accomplish that goal is to redefine the relationship between professor and student to be more collaborative than authoritative and based on mutual respect. For many, the teacher is a figure of authority second only to a parent. Allowing students to look to the professor as the only source of truth and knowledge has not allowed students to develop any confidence in their own ability to evaluate, judge, and know for themselves. We believe that true collaboration between student and faculty will result in an empowerment of the student that will be readily transferable to situations outside of the classroom (Baker & Boland, 2003; Spiezio, Baker, & Boland, 2005).

The key features of the Classroom Engagement Module are (a) spending significant time in community building (having the students get to know the professor and each other), (b) having students determine a protocol of behavior and expectations in the classroom, and taking responsibility for putting it into practice, (c) collaborating with students in determining course content and assignment,; (d) the use of individual learning agreements, and (e) incorporating self-evaluation and peer-evaluation wherever possible and appropriate. Each of these features prevents students from playing a passive role in the classroom and towards their own learning, and fosters a sense of responsibility for themselves and for the other members of the learning community.

Students enrolled in a Classroom Engagement module course would face increased expectations for engagement in the classroom. Having participated in the creation of a class protocol, students would find it more difficult to do the kinds of things that the class had agreed were detrimental to learning (like sleeping in the classroom!). They would feel more accountable to themselves and the others in the class for their actions. By participating in the construction of the course syllabus, they would feel more engaged with its contents and requirements. The process of collaborating over the syllabus itself engenders useful leadership skills. Typically, a professor would begin

with a textbook selected, as well as a set of outcomes that had to be met (often mandated by accrediting bodies or by the need to meet prerequisite requirements). Students might be able to agree on the order of topics, or on additional topics in addition to required ones. They might be able to participate in the decision of what kind of exam to have. Then they would come into an exam not just waiting passively to see what the professor had in store for them, but understanding more about how we need to assess student learning, which kinds of exams are best for which outcomes, and having had some kind of input into assessing their own learning.

Table 1 shows descriptive statistics for students who completed a Classroom Engagement course on all of the skill and aptitude items. The median (50th percentile) results suggest that many of the students felt the Classroom Engagement pedagogical techniques helped them acquire or increase many skills and aptitudes related to civic and political engagement activities.

Table 1: Skill and Aptitude Items for Classroom Engagement Courses

Compared with other courses, this class has helped me to become:

Survey Item	Sample Size	Median	Mean	Std. Dev.
1. More respectful of others	174	3.00	3.45	.995
2. More interested in participating in community affairs	174	3.00	3.26	1.00
3. Better at thinking critically about issues	174	4.00	3.74	.984
4. More effective at communicating my ideas	174	4.00	3.65	.936
5. More comfortable engaging in discussions	174	4.00	3.63	1.01
6. A better listener	174	4.00	3.78	.973
7. Better at identifying compromise solutions	173	4.00	3.51	.998
8. More willing to take action to address problems	174	3.00	3.43	.993
9. More tolerant of peoples' differences	174	4.00	3.68	1.06
10. More effective at accomplishing goals	174	4.00	3.55	1.00
11. More empathetic toward the plight of others	173	4.00	3.55	.991
12. More comfortable working with others	174	3.00	3.48	1.02
13. More comfortable speaking in public	174	3.00	3.24	1.10
14. Better at identifying sources of information	174	3.00	3.50	.984
15. More comfortable playing a leadership role	174	3.00	3.22	1.04
16. Better at assessing my own strengths and weaknesses	174	4.00	3.63	.958
17. Better at organizing and presenting information	174	3.00	3.44	.946
18. Better at planning and completing a project	174	4.00	3.51	.978
19. Better at analyzing and synthesizing information	174	4.00	3.52	.954
20. More willing to stand up for my own ideas and Opinions	174	4.00	3.60	1.02
21. Better at knowing where to find the information needed to answer a question	174	4.00	3.49	.948
22. More comfortable making a moral or ethicalDecision	174	4.00	3.53	1.01
23. More comfortable with being personally responsible for the grades I achieve	174	4.00	3.63	1.10
24. More comfortable with being personally responsible for the knowledge I acquire	174	4.00	3.70	1.05
25. More comfortable working with different cultures	174	3.50	3.48	1.05
26. More aware of my own biases and prejudices	174	4.00	3.56	1.03
Overall Skills & Aptitudes	172	3.57	3.53	.820

Rating Scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Neither Agree nor Disagree, 4 = Agree, 5 = Strongly Agree

As Table 2 shows, the students felt that the learning experience with a Classroom Engagement module was very good or excellent. They seemed to very much enjoy the environment in which they were treated as equals, held accountable and responsible for their behavior and grading, and participated in the establishment of classroom agreements and protocols.

Table 2: Learning Experiences for Classroom Engagement Courses

Survey Item	Sample Size	Median	Mean	Std. Dev.
1. My experience with setting my own learning objectives and priorities in terms of course content was	174	4.00	4.32	1.16
2. My experience with determining my own type,number and weighting of assignments was	174	4.00	4.24	1.09
3. My experience with establishing and enforcing a Classroom Protocol was	174	4.00	4.22	1.13
4. My understanding and application of the Learning Agreement was	173	5.00	4.42	1.15
5. The opportunity to engage in self-directed research and papers was	172	4.00	4.40	1.18
6. Evaluative and grading techniques (tests, papers, self, peer, etc.) were	173	5.00	4.77	1.13
7. Clarity of student responsibilities and requirements were	174	5.00	4.86	1.15
8. Interaction with classmates was	174	5.00	4.70	1.16
9. Exploration of own strengths and weaknesses was	174	5.00	4.56	1.13
Overall Learning Experience	168	5.05	4.81	.883

Rating Scale: 1 = Very poor , 2 = Poor, 3 = Fair, 4 = Good , 5 = Very good, 6 = Excellent

Community Engagement Module

The **Community Engagement Module** focuses on transforming the newly empowered student into an active and empowered member of the community, through the transfer of the skills of active learning from the classroom to the community. An interesting paradox observed by virtually everyone studying the decline in political engagement among college students is that while conventional measures of political participation such as voting have declined sharply, levels of involvement in community service have risen (Ehrlich 2000; Putnam 2000; Verba, Schlozman, Brady 1995).   The Community Engagement Module uses the well-established pedagogy of service-learning to link students' active learning in the classroom to an environment within which they can see that their individual actions have an immediate impact. Cedar Crest College already had a service-learning course that was required of all students. We modified the course slight to better match the outcomes of the *Democratic Academy*. In the course, students spend one instructional hour a week in the classroom, studying and discussing issues of social justice and moral theories. They spent twenty-eight hours over the course of the semester at community service sites, observing the practical needs of the community, assessing the social justice issues in the community, and putting into practice the moral values and principles they discussed in the classroom.

Service-learning provides students with the opportunity to take the critical consciousness that begins to emerge in the Classroom Engagement Module and apply it to the world beyond the classroom. In the process, they develop empathy, social consciousness, and a nascent sense of moral agency. As students witness the effect their actions have, even on a small population, and perhaps for a short time, they begin to trust in the effectiveness of their actions, and in their ability to effect change. Students enrolled in a Community Engagement course reported in general that their learning experience was good or very good. Table 3 presents specific item results.

Table 3: Learning Experience Items for Community Engagement courses

Survey Item	Sample	Median	Mean	Std. Dev.
1. The correspondence between my own learning objectives and priorities and the learning goals for the class was	123	4.00	4.06	1.18
2. The practice of combining work in the community with coursework was	123	4.00	3.93	1.26
3. The application and practicality of coursework to everyday life was	123	4.00	3.79	1.27
4. The role of the community partner in my learning was	121	4.00	3.75	1.31
5. The opportunity to learn outside of the classroom was	123	4.00	4.16	1.44
6. Instructor's ability to promote integration of service work and classroom readings, assignments was	123	4.00	4.42	1.12
7. Encouragement given students to express themselves	123	5.00	4.71	1.21
8. Relevance and usefulness of course content was	123	4.00	3.81	1.50
9. Evaluative and grading techniques (tests, papers, self, peer, etc.) were	122	4.00	4.20	1.23
10. Clarity of student responsibilities and requirements were	123	4.00	4.36	1.15
11. Interaction with classmates was	123	4.00	4.44	1.22
12. Exploration of own strengths and weaknesses was	123	4.00	4.27	1.20
Overall Learning Experience	117	4.27	4.24	.919

Rating Scale: 1 = Very poor , 2 = Poor, 3 = Fair, 4 = Good , 5 = Very good, 6 = Excellent

For the service-learning courses, the agencies or organizations with which students worked completed surveys regarding their reactions to and satisfaction with the experience. Table 4 shows the results of the agencies' frequency responses. The students' service-learning experience did have a positive effect on the agency on site.

Table 4: Degree of Impact Students' Service Learning Activities had on an Agency

Survey Item	No Impact	Minimal Impact	Maximum Impact
Increasing the number of services offered	2	5	
Enhancing the efficiency of service delivery	1	2	6
Enhancing the culture or morale of the agency		4	4
Increasing the value of services delivered	3	3	3
Completing projects		5	3
Gaining new insights into the agency's mission	1	7	
Gaining new insights into the agency's operations	2	5	1
Establishing new connections within the community	1	3	5
Generating new services, materials, products	3	5	

Political Engagement Module

The **Political Engagement Module** ideally takes students who are active learners and have some emerging sense of social responsibility and enables them to become active and effective participants in all aspects of political life. Its task is to combine instruction in the fundamental skills of civic and political participation with an opportunity to join with communities and community groups as they define and address the challenges they face. The basic skills include, but are not limited to, oral and written communication; the ability to collect, organize, and analyze information; application of knowledge of the structure and function of local and national government; leadership and coalition-building skills; problem-solving and mediation skills. The crucial element of this module is the need to put these skills into immediate practice. All courses that qualified for the Political Engagement Module required students to be simultaneously working on a

community or political action project that involved their taking a leadership role.

Courses employing the Political Engagement Module require students to meet with the people and communities who are affected by the social and political issues students are studying. They must learn to understand the issues not just from the academic perspective but also from the perspective of those living the reality of it. They must resist the temptation to enter the community as outsiders holding the answers but should join with the community in working for solutions. The rewarding social interactions, the experience of effective communal action, and the personal bonds developed in such ventures, should all lead to both the deeper integration of students into their communities, and the willingness to continue such participation. Even when the action fails, or the experience is not entirely positive, the opportunity to exercise newly acquired civic skills may also lead the student to continue participation, perhaps with an increased determination to succeed. For example, one student in such a course set out to get the Pennsylvania legislature to take-up a piece of legislation. She worked very hard to get it to the floor of the legislature. But on the day the vote was to occur, other business arose that was more important and the vote was put off. She was very disappointed, especially as it was the last week of the semester. Of course, her grade for the course was not affected. But she did not let the issue drop once the course was over, either. The vote was taken almost exactly a year later, due to her on-going efforts.

Table 5 shows descriptive statistics for students who completed a Political Engagement course on all of the skill and aptitude items. As for the other modules, the median (50th percentile) results suggest that many of the students believed that the Political Engagement pedagogical techniques helped them acquire or improve their skills and aptitudes related to civic and political engagement activities.

Table 5: Beliefs about Changes in Students' Skills, Aptitudes, and Attitudes due to Political Engagement Courses

Survey Item	Sample	Median	Mean	Std. Dev.
1. After taking this course, I understand how political issues are part of everyday life.	141	4.00	3.96	.877
2. The nature of this course showed me how I can become more involved in my community.	141	4.00	3.78	.957
3. The nature of this course helped me to become more aware of the political process at local, state, and federal levels.	141	4.00	3.60	1.08
4. I have a responsibility to serve my own community.	141	4.00	4.04	.861
5. The discussions surrounding politics in this course made me aware of my own biases and prejudices.	141	4.00	3.79	.953
6. The issues discussed in this class enhanced my ability to communicate my ideas in a real world context.	141	4.00	3.81	.810
7. I can make a difference in my community.	141	4.00	4.24	.726
8. The nature of this course helped me to better understand how state and local governments address social problems.	141	4.00	3.54	1.04
9. Having taken this course, I probably will vote more regularly in elections.	141	4.00	3.67	1.06
10. Having taken this course, I probably will pay more attention to news relating to politics.	141	4.00	3.79	.982
11. I am now more likely to contact my political representatives to express my opinion on public policy issues.	141	3.00	3.38	1.09
12. I am now more likely to participate in organized political demonstrations.	141	3.00	3.21	1.13
13. Political participation is an effective way of helping to address problems in my community.	141	4.00	3.92	.820
14. Having taken this course, I now have a better understanding of how citizens can organize to promote social and political change.	141	4.00	3.74	.900
15. I think it is important to become a community leader.	141	4.00	3.75	.888
Overall Skills, Aptitudes, & Attitudes	138	3.76	3.74	.566

Rating Scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Neither Agree nor Disagree, 4 = Agree, 5=Strongly Agree

Students responded to a series of items to indicate their overall satisfaction with their learning experience with a Political Engagement course. As Table 6 indicates, students seem to have really enjoyed the experience with many of the items being rated good and very good.

Table 6: Learning Experience Items for Political Engagement courses

Survey Item	Sample	Median	Mean	Std. Dev.
1. The correspondence between my own learning objectives and priorities and the learning goals for the class was	141	4.00	4.34	1.20
2. The practice of combining work in the community with coursework was	141	4.00	4.09	1.28
3. The application and practicality of coursework to everyday life was	141	5.00	4.41	1.18
4. The role of the community partner in my learning was	141	4.00	3.96	1.17
5. The opportunity to learn outside of the classroom was	141	4.00	4.52	1.09
6. Instructor's ability to promote integration of service work and classroom readings, assignments was	140	5.00	4.76	1.16
Overall Learning Experience	139	4.68	4.55	.937

Rating Scale: 1 = Very poor , 2 = Poor, 3 = Fair, 4 = Good , 5 = Very good, 6 = Excellent

Comparisons Within and Between Groups Over the Course of a Semester

An evaluation was also conducted to determine whether there was any existing difference in students' experiences, attitudes or skills across the course of a semester for the control group (students not enrolled in a *Democratic Academy* course) and the experimental group (students enrolled in any type of *Democratic Academy* course: Classroom, Community, or Political Engagement). When comparing the beginning to the end of the semester, Table 7 shows that students in the non-*Democratic Academy* courses experienced few engagement activities. On the other hand, those in a *Democratic Academy* course showed significant increases in five of the engagement activities. Yet it should be noted that the absolute value of the frequency of these activities is relatively low. Students engaged in these activities while enrolled in a *Democratic Academy* course; however, these activities were independent of course content. Future investigations could examine the occurrence and stability of engagement activities months or years after completing a *Democratic Academy* course.

Students' attitudes appear to be more positive, in an absolute sense, for those students in *Democratic Academy* courses, at the beginning and end of the semester. Table 8 shows that when looking across time, only one "social problems directly affect the quality of life in my community" significantly increased after the *Democratic Academy* course.

The results indicated that there were differences in attitudes between the *Democratic Academy* students and control group students. When asked if students, as individuals, can have an impact on problems in their community, the *Democratic Academy* students showed an increase in the value they attached to civic engagement. This supports the idea that courses in engagement can help foster a sense of personal responsibility for students. We also found statistical differences with regard to the ability to empathize and work with others. At the end of the semester, the students in the *Democratic Academy* classes showed movement from tolerating differences to a more engaged form of civic engagement. Students reported more significance attached to civic engagement and they reported an increase in their confidence in regard to critical thinking skills and in their ability to serve as agents of social and political change.

Table 7: Students' Experiences From the Beginning to the End of a Semester

Survey Item	Students in *non*-Democratic Academy Courses		Students in Democratic Academy Courses	
	Beginning of the Semester (N=719)	End of the Semester (N=643)	Beginning of the Semester (N=524)	End of the Semester (N=466)
1. Volunteered time with a non-profit civic group that performs community service.	2.23	2.12	2.32	2.83**
2. Participated in organized sports or other types of athletic activities.	2.82	2.78	2.61	2.41*
3. Served as an officer for a student-based club or group.	1.95	1.93	2.10	2.17
4. Donated money to a community-based non-profit group or organization.	2.20	2.20	2.34	2.54**
5. Participated in an online chat room or some other type of virtual community.	2.62	2.59	2.52	2.69
6. Participated in a religious service or other activities sponsored by religious group	2.78	2.75	2.74	2.81
7. Attended a local school board meeting or a student government meeting.	1.65	1.62	1.56	1.64
8. Held a job, either full or part-time.	4.38	4.30	4.61	4.37**
9. Discussed current events with friends or family members.	4.35	4.47*	4.44	4.49
10. Participated in an effort to change some policy, law or regulation.	1.82	1.85	1.84	2.07**
Overall Experiences	2.68	2.66	2.71	2.80*

Rating Scale: 1 = Not at all, 2 = < once a month, 3 = About once a month, 4 = A few times a month, 5 = weekly
    * indicates significant differences at the .05 level   ** indicates significant differences at the .01 level

Table 8: Students' Attitudes From the Beginning to the End of the Semester

Survey Item	Students in *non*-Democratic Academy Courses		Students in Democratic Academy Courses	
	Beginning of the Semester (N=719)	End of the Semester (N=643)	Beginning of the Semester (N=525)	End of the Semester (N=466)
1. Having an impact on community problems is within the reach of most individuals.	3.77	3.78	3.85	3.88
2. Social problems directly affect the quality of life in my community.	3.73	3.77	3.86	3.98*
3. Volunteer work is the most effective way of making a difference in a community.	3.50	3.44	3.66	3.57
4. I can have an impact on the problems that effect my community.	3.72	3.72	3.82	3.86
5. The skills and experiences individuals gain from community service are valuable and relevant to careers.	3.86	3.89	4.00	3.94
6. It is important to keep up with local and national news.	4.25	4.24	4.35	4.31
7. The most important reason to get involved in the community is to help change a policy or law.	2.69	2.73	2.82	2.92
8. Community service should be a graduation requirement for all high school students.	3.15	3.22	3.32	3.35
9. Community service should be a graduation requirement for all college students.	2.85	2.88	3.13	3.15
10. I vote regularly in local and state elections.	3.10	3.11	3.31	3.27
11. Community problems are more difficult to solve than most people think.	3.49	3.49	3.44	3.48
Overall Attitudes	3.46	3.48	3.60	3.61

Rating Scale: 1 = Strongly disagree, 2 = Disagree, 3 = Neither agree nor disagree, 4 = Agree, 5 = Strongly agree
    * indicates significant differences at the .05 level

Table 9 indicates that the *Democratic Academy* modules did affect students' beliefs. Although only 4 skills significantly increased for those students in traditionally taught courses, students reported significant increases in 16 skills after taking a *Democratic Academy* course.

The second hypothesis focused on students' sense of civic skills. The Civic Aptitudes Survey had questions designed to measure students' ability to serve as agents of change. The survey questions focused on leadership and critical thinking skills. The students in the *Democratic Academy* courses did see themselves as more capable of taking action to address social and political problems. Students indicated that the pedagogies of engagement can help nurture a sense of personal responsibility to their communities and to see themselves as agents of social change.

Table 9: Students' Beliefs From the Beginning to the End of the Semester

Survey Item	Students in *non*-Democratic Academy Courses		Students in Democratic Academy Courses	
	Beginning of the Semester (N=719)	End of the Semester (N=643)	Beginning of the Semester (N=525)	End of the Semester (N=466)
1. Respecting the views of others.	4.10	4.03	4.04	4.15*
2. Participating in community affairs.	2.95	2.99	2.98	3.22**
3. Thinking critically.	3.76	3.86*	3.83	3.98**
4. Communicating ideas to others.	3.74	3.82	3.75	3.87*
5. Discussing issues with others.	3.77	3.87*	3.87	3.94
6. Listening to others.	4.21	4.21	4.27	4.25
7. Identifying compromise solutions to problems.	3.77	3.80	3.82	3.91*
8. Taking action to address problems.	3.34	3.42	3.44	3.59*
9. Being tolerant of peoples' differences.	4.01	4.03	4.11	4.14
10. Accomplishing my goals.	3.86	3.92	3.94	4.05*
11. Empathizing with the plight of others.	3.76	3.74	3.85	3.99**
12. Working with others.	3.95	3.90	3.95	4.01
13. Speaking in public.	3.07	3.20*	3.06	3.32**
14. Organizing and presenting information.	3.43	3.52	3.44	3.70**
15. Ability to lead a group.	3.59	3.64	3.60	3.68
16. Assessing own strengths and weaknesses.	3.64	3.73	3.71	3.84*
17. Planning and completing a project.	3.69	3.77	3.82	3.92*
18. Analyzing and synthesizing information.	3.56	3.66*	3.58	3.82**
19. Standing up for own ideas and opinions.	3.92	3.98	4.03	4.08
20. Knowing where to find the information needed to answer a question.	3.60	3.65	3.67	3.87**
21. Ability to make a sound moral or ethical decision.	3.88	3.92	3.95	4.03
22. Being personally responsible for the grades I achieve.	4.14	4.15	4.23	4.24
23. Being personally responsible for the knowledge I acquire.	4.12	4.14	4.16	4.22
24. Being comfortable working with different cultures.	4.05	4.05	4.13	4.17
25. Being aware of my own biases and prejudices.	3.91	3.97	4.04	4.08
26. Identifying which major I will pursue.	3.97	3.97	4.03	4.21**
27. Defining which profession I want to enter.	3.80	3.77	3.92	3.98
28. Making myself marketable for my profession when I graduate.	3.79	3.76	3.93	3.94
Overall Skills & Aptitudes	3.67	3.80*	3.76	3.93**

Rating Scale: 1 = Worse than most, 2 = Not as good as most, 3 = About the same as most, 4 = Better than most, 5 = Much better than most

* indicates significant differences at the .05 level   ** indicates significant differences at the .01 level

Discussion

The assessment results provide empirical support for the *Democratic Academy* instructional modules. When faculty employ pedagogical strategies dedicated to the promotion of civic engagement, they have a significant effect on how students perceive themselves as engaged citizens. The data suggests that student apathy can be challenged if faculty members are willing to use instructional tools that emphasize the importance of civic engagement.

The major findings of this study suggest that using the strategies of student engagement can promote the value students attach to civic engagement, change the way students engage with the community, demonstrate an increase in student confidence in critical thinking skills, and enhance their sense of efficacy that students express with regard to their ability to serve as leaders.

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Section 4. Student Engagement Techniques

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Engaging Students through e-Polling

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Polling students for their responses to questions is probably one of the oldest methods of getting information about student beliefs and knowledge and using that information to engage them in the classroom. Teachers often verbally present multiple choice questions to a class and visually obtain a frequency count of raised hands to question the options that they posed. This method is so pervasive that starting in kindergarten, students learn to raise their hands in response to the teacher's questions. Teachers may also conduct student polling by presenting questions and having students record answers on a sheet of paper to turn in to the teacher or distributing surveys for students to complete and return. Teachers then summarize student responses, usually between class sessions, and use the data to engage students in discussing their responses. Like many other aspects of classroom teaching, technology is impacting and enhancing even this most basic method of engaging students.

Based on a system developed by the military in the 1950s, as early as the mid-1960s a few college classrooms were outfitted with wired keypad audience response systems (ARS) that allowed collecting student responses to multiple choice questions. The initial ARSs were cumbersome, expensive, and complicated to install and use. Probably because of the cost of installation, there is little mention of research on the use of ARS until the 1990s (Judson & Sawada, 2006). By the early 1990s advances in computers and presentation technology contributed to a renewed use of the ARS with its incorporation into the new "multimedia classrooms" being installed at universities and used to teach psychology (see Brewster, 1996; Stoloff, 1995). With the advent of inexpensive wireless infrared remotes for collecting student responses (commonly called "clickers") in the early 2000s, ARS technology became inexpensive and easily portable to any classroom, resulting in commonplace usage at colleges and universities (Abrahamson, 2006). Students have an individual clicker to enter responses to multiple choice questions; the software associated with the clickers instantly summarizes and displays the responses as a bar graph of response frequencies for each alternative via presentation software such as

PowerPoint. All ARSs provide the option to record anonymous or individually identified student responses, while tracking the overall number of responses.

Over the last 10 years, radio frequency remotes have increasingly replaced infrared technology, solving early problems associated with infrared line-of-sight limitations in larger classrooms, and newer systems are available that allow the collection of text and numeric data. However, it appears possible that clickers may disappear in the near future. Several companies are now offering, at a relatively low per-semester charge, a Web-based interface that allows students to text responses with their cell phones. These responses are summarized instantly and available to the instructor via the Web.

Most ARSs provide software that integrates their use relatively seamlessly with PowerPoint. The instructor embeds preplanned multiple choice questions within a PowerPoint presentation. When the question appears, students simply press a button on the clicker keypad indicating their choice among the options presented. Although available keypads vary slightly in the number of options available, many offer up to 10 choices. Most systems have built-in processes for indicating that a response has been recorded (e.g., indicator light on a student's clicker, number corresponding to a particular clicker on the projection screen that lights up when a response is received from that clicker). Systems are not limited to preplanned questions. Most systems also allow the instructor to insert questions "on the fly." After students enter responses, the instructor closes the polling and reveals a bar graph distribution of the responses. Depending on the system, it may display frequencies, percentages, and some summative data (means, standard deviations).

From an instructor's point of view, there are several additional choices to consider. As noted previously, instructors typically need to do some preplanning and embed questions and activities in their PowerPoint in advance. Also, depending on the type of ARS in use, instructors have to decide whether to record student responses anonymously or tied to an individual student's name. Student-

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identified responses require that each student be assigned a particular numbered clicker for the term.

Why Use an ARS?

One may ask why bother with clickers when raising hands provides the same result at no technology cost to students or the university. Abrahamson (2006) noted that raising hands is not anonymous; students commonly look around before responding and infrequently are willing to raise their hands for what appears to be a minority opinion or response. Because students do not see the response selections of others, clickers allow students to select what may be a minority response and also provide a record of the number of students responding. Further, without using clickers, it is hard to determine whether all students actually participated, as raising hands forces sequential recording of each option, and there is no record of individual students who responded.

A second advantage is that an ARS allows instructors to save records of responses for future reference. This ability provides the possibility of comparing response frequencies for performance and responses to activities across classes and over time, allowing the collection of data for pedagogical research purposes. Also, saving data allows for the building of larger data files over time, which should lead to greater power if instructors wish to compare responses statistically.

Another advantage from an instructor's perspective is that an ARS can increase efficiency and reduce costs related to copying. Instructors can easily adapt many existing demonstrations and activities to an ARS presentation format (see subsequent examples). In the past, using these classroom exercises may have required an instructor to have surveys or activity materials copied for each student. In addition, the paper approach requires time to distribute the materials, collect them, and then collate the responses, a task that may have to be done between class sessions. An ARS allows one to incorporate the survey or activity materials within the presentation software, collect the responses, and instantly present the results. Not only does this approach save time in the classroom, it allows for instantaneous feedback and use of the data in that class session, while the information is fresh in students' minds.

An ARS also provides the opportunity to evaluate student understanding of a recently presented lecture or module of material and a form of "just-in-time" or contingent teaching (Bruff, 2009a). Using the ARS, an instructor can present several ungraded multiple choice items at the end of the lecture or module to evaluate the class's understanding of the content. When responses show that a significant percentage of the students selected an incorrect answer, the instructor can evaluate the pattern of responses and immediately address the misunderstanding(s) of the concept. In addition, instructors who review before tests can present a series of questions, obtain class responses, and address content that student responses indicate is poorly understood.

All of these advantages listed represent more general advantages of using an ARS that apply to any discipline. There are also specific advantages for us as psychology faculty. ARSs allow us to instantaneously replicate classical psychological studies in the classroom (see subsequent examples). Rather than simply describing research and its results, which can lead to students thinking that "I wouldn't respond that way" or "These results are from lab research and don't apply to me," we can immediately gather data that show the robustness of a phenomenon and use the results as the basis for classroom discussion.

Sometimes psychology instructors want to gather opinions and perspectives on behaviors that students would otherwise be hesitant to respond to by raising their hands (e.g., experience with therapy; occurrence of mental health problems, individually or in their families; sexual behavior or attitudes; drug use). Although one could collect these data via paper-and-pencil surveys, an ARS allows one to collect the data for discussion instantaneously and anonymously. For example, Brewster (1996) described using an ARS to gather anonymous responses to sensitive issues (e.g., self-reports of having a social phobia) and opinions on issues. She reported that students were more likely to indicate having a social phobia anonymously via the SRS than to disclose it in a traditional classroom. Further, viewing the class results also contributed to increased discussion on the topic.

Some Examples of ARS Usage

Although instructors in a variety of disciplines use an ARS (see reviews by Banks, 2006; Bruff, 2009b; Duncan, 2004, Fies & Marshall, 2006), we focus our discussion primarily on examples of its uses in psychology. In this section we consider some of the "simple" classroom management applications of an ARS as well as using it as an efficient means to present demonstrations and activities that engage students.

Bruff (2009a) provided an excellent summary of ARS uses, describing the types of activities and questions that faculty can use with an ARS. He noted than an ARS is ideal to perform relatively routine classroom activities that may be tied to grading

(Bruff, 2009a). By setting the ARS system to record individually identified student responses, the ARS can record attendance. This capability may be particularly useful in large introductory psychology classes. Using clickers during class for activities and demonstrations and recording individual student responses could also serve as a measure of student participation. Finally, one can use the clickers to present and record individual student responses to graded multiple choice quizzes or tests.

Other ARS-based activities Bruff (2009a) listed are focused on engaging students and potentially impacting learning. Some examples include discussion warm-up questions presented at the beginning of class (using ARS avoids a single student responding for the class and engages all students); combining with peer instruction (presenting a question and, if there is large variability in responses, dividing students into small groups to discuss and come up with a consensus answer); and question-driven instruction where the entire class session is guided by class responses to multiple choice questions, resulting in instruction that focuses on concepts that students understand poorly rather than covering material they already understand.

As noted previously, the ARS allows for easy collection of data and presentation of demonstrations and activities, including replications of empirical phenomena (Cleary, 2008). For example, because many activities/demonstrations described in instructor manuals that accompany textbooks involve gathering student responses or opinions, instructors can convert them to an ARS presentation format. Three examples follow.

Example 1

Kite (1990) described a classroom activity for engaging students in defining normal sexual behavior and discussing issues that make definitions of abnormality difficult to achieve (e.g., influences of culture and sociohistorical factors). To engage students in the discussion, she devised a 30-item questionnaire that listed a variety of sexual behaviors and asked students to respond "yes" if they considered the behavior abnormal or "no" if they considered it normal (e.g., "Masturbating after marriage," "Watching X-rated movies several times a week," "Fantasizing about having sex with a member of the same sex"). She also noted that one could have students rate the behaviors on a Likert-type scale of normality. In her description, the activity required distributing copies of the questionnaire to all students. Once individual students completed the questionnaire, they were divided into groups to discuss their responses and come up with a definition of normal sexual behavior. One of us (BH) has

converted the exercise to an ARS format. The questionnaire items are presented via PowerPoint, and students respond with clickers. Response frequencies of the entire class's opinion are displayed for each item. This approach has the advantages of keeping an individual student's response anonymous and also providing a larger class data set of responses to consider in the subsequent small group discussion. Sharing only a few responses among individuals in a small group as in Kite's original exercise may hide variability in responses that would be revealed in a larger data set. Further, the ARS allows an instructor to save a particular class's responses and share or compare them with future classes.

Example 2

Pusateri (2003) developed a large number of activities demonstrating phenomena and replicating classic studies in cognition and perception. Many of these activities are adaptable for ARS presentation and instant classroom data collection. One advantage of Pusateri's materials is that he has already converted them to PowerPoint versions that are available online and easily downloaded and embedded in an instructor's PowerPoint lecture. For example, he included a powerful demonstration of several basic memory phenomena (e.g., recency effect, primacy effect, distinctiveness, repetition, false memory). Students see a series of words, each presented briefly, and write down as many of the words that they can remember at the end of the list. The instructor then asks whether students recalled specific words from the list. Although this activity can be done by having students raise their hands to indicate whether they remember a word, using the ARS to record their responses provides class percentages, avoids the hesitancy of students to reveal whether they remembered a word compared to others in the class, and reinforces the idea that psychology is an empirical science by recording and interpreting actual data in class. After students see the data, they can break into small groups to discuss the results and generate explanations as to why they remembered certain words better than others.

Example 3

One of us (RAS) has developed an ARS activity to demonstrate self-serving bias to students. On the first day of class, while collecting demographic information from students, he tells students that the average grade in the class over the past few years has been a B- and then asks students to predict their final grade in the course. Despite the anchor of B- as the typical grade, students give highly enthusiastic predictions. For example, in a recent class, 20 students predicted making an A (1 A+, 10 A, 9 A-),

nine students predicted a mid to high B (2 B+, 7 B), one student predicted making an average grade (B-), and only two students predicted making a below-average grade (2 C). Using an ARS allows students to choose their expected final grade without any peer pressure to respond near the norm. The data clearly demonstrate to students how people are prone to perceive themselves in an overly positive manner—the self-serving bias.

The Big Questions: Does Using an ARS Improve Student Engagement and Learning?

Although they are connected questions, the impact of ARS on engagement and learning should be considered separately. Clearly, the research literature demonstrates that student engagement contributes to student learning (Carini, Kuh, & Klein, 2006; Henderson & Nash, 2007), but is engagement alone sufficient for learning?

Research by psychology faculty seems to indicate that using an ARS increases student engagement. Students report that using an ARS is more enjoyable and conducive to participation (Hill, Smith, & Horn, 2004; Pemberton, Borrego, & Cohen, 2006; Poirier & Feldman, 2007; Shaffer & Collura, 2009; Stowell & Nelson, 2007). Students also report more positive attitudes toward classes that incorporate an ARS than comparison classes (Hill et al., 2004; Poirier & Feldman, 2007; Stowell & Nelson, 2007). Finally, research indicates that students are more likely to indicate their personal opinions and show less conformity in their responding when compared with raising their hands in class (Hill et al., 2004; Stowell, Oldham, & Bennett, 2010). Using an experimental design comparing a clicker and nonclicker lecture presentation, Stowell et al. (2010) demonstrated that both shy and female students using clickers demonstrated more variability in responses than a comparison group that used the typical hand-raising procedure in responses to controversial questions.

The majority of available research in psychology with respect to increased learning as a function of using an ARS generally shows small to no improvement in *overall* test performance (Hill et al., 2004; Morling, McAuliffe, Cohen, & DiLorenzo, 2008; Pemberton et al., 2006; Poirier & Feldman, 2007; Shaffer & Collura, 2009). Some studies have suggested that there may be a slight improvement when using an ARS for specific content and assessing performance on test questions related just to that content (Hill et al., 2004; Shaffer & Collura, 2009). Unfortunately, most of these studies simply apply existing techniques shown to increase learning using an ARS presentation (e.g., in-class test reviews, existing demonstrations or activities). That is, one could argue the pedagogical approach is the same, simply presented with an ARS. If comparisons are then made to classes using the same technique, why would one expect the presentation modality (i.e., ARS) to make a difference?

A Few Caveats

We have primarily focused on the advantages of using an ARS in facilitating presentations of demonstrations and activities and engaging students. There are a few caveats. Like any other new technology, there is a learning curve to implement it. Incorporating an ARS will take time. You will have to learn the nuances of the system that you choose and convert materials into a PowerPoint format for presentation. Our personal experience is that the learning curve is relatively easy for the systems that we have used. However, the long-term benefits of implementing an ARS in terms of gathering data in class, facilitating immediate feedback to students, and the potential for increasing engagement far outweigh the investment of time.

Another potential downside is the cost associated with an ARS, for either the institution or the student. One model is for the institution to purchase the clickers and associated software. Sets of 40 clickers can run as high as $2,500. Buying departmental ARS sets saves the students money. However, having a departmental set of clickers places the onus on the instructor to distribute and collect clickers during each class. These processes can be time consuming, especially if there are individually assigned clickers. In addition, the department assumes an ongoing cost of clicker battery replacement. The advantages are saving students money and assurance that every student has a clicker for each class.

The other model is to have students purchase their own clicker. Clicker costs to students vary with the vendor, but average about $25-30. However, the cost can be distributed over multiple years if an institution adopts a standardized system and multiple instructors use the clickers. In addition, some bookstores will buy back used clickers for resale, again where there is a standardized system.

Currently, vendors offering the cell phone ARS system charge a flat fee for individual faculty classes or an institutional license. These fees seem to be lower than buying a system. In addition, some vendors are offering the service free for classes smaller than 30 students. Obviously, there may be student charges depending on their text plan through their cell phone provider.

A Parting Word (or Two)

The most important thing to realize about an ARS is that it is simply a tool, not a pedagogical technique (Bruff, 2009b). It is a technology that increases our efficiency as instructors in gathering information about our students, whether it is their opinion, understanding of a concept, or data on their responses to an activity or demonstration. Over the years teachers have developed many techniques, activities, and demonstrations that research shows are effective in increasing student engagement and learning (just pick up any issue of *Teaching of Psychology*). ARS is just another way to do what many of us are already doing, simply more easily and with added benefits not available with older methods of asking students to raise their hands or collating student responses between classes and delaying feedback. The important focus should be on how an ARS can influence teaching through leading to pedagogical changes that improve learning, not whether the technology itself improves learning. For example, one of the best known advocates of ARS, physicist Eric Mazur (2004), noted that using an ARS simply enhances collecting feedback from students, but it is implementing changes in how one teaches through using the feedback with techniques such as peer instruction that is the key variable. We believe the question of the impact of an ARS on learning is akin to criticisms of PowerPoint (see Tufte, 2006) or any other new technology developed for classroom use. The issue is not the technology, but how it is used in a pedagogically effective manner.

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Active Learning

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What is Active Learning?

There is high acclaim for the benefits of active learning in higher education (e.g., Bonwell & Eison, 1991; Yoder & Hochevar, 2005). The peer-reviewed journal *Active Learning in Higher Education* and numerous books are dedicated to this pedagogical approach. The "buzz" phrase refers to several models of instructions that emphasize the role and responsibility of student learning (Bonwell & Eison, 1991). Active learning developed from the work of theorists promoting discovery learning (Mayer, 2004). During active learning, students are actively (rather than passively) engaged in their learning by discovering, processing, and applying information. They engage in higher-order thinking tasks such as analysis, synthesis, and evaluation (Bloom, 1956). Active learning derives from the assumptions that learning is an active endeavor and that individuals learn in different ways. However, it is important to note that active learning alone will not increase student learning, in the absence of content, reflection, or objectives.

Why is Active Learning Important?

Why is active learning important? More discovery-oriented and student-active teaching methods ensure higher student motivation, more learning at higher cognitive levels, and longer retention of knowledge (Nilson, 1998). The foundations of any discipline are its definition, knowledge base, terminology, structure, methodology, and epistemology. As we move from basic knowledge to the complex organization and hierarchies of information in the disciplines, we parallel the levels of Bloom's (1956) cognitive taxonomy: knowledge, comprehension, application, analysis, synthesis, and evaluation. Feldman (1989) has shown that there are two essential tasks to foster student achievement: (a) to help students see the relevance and importance of the information, and (b) to make it understandable. In fact, the dimensions of teaching that are the strongest correlates of student achievement are: (1) preparation and organization; (2) clarity of communication; (3) perceived outcome of the instruction; and (4) stimulating student interest in the course content (Feldman, 1989). The first two concern the organization of information and its effective presentation and have traditionally been part of a teacher's preparation. The second two deal with motivation and engaging students in their learning.

Learning does not take place in a vacuum. Knowledge accumulates through complex experiences that learners store in schemata - structured representations that capture information relevant to a situation or event (Barsalou, 1992). Schemata and categories form some of the basic structures that underlie knowledge and memory. We rely on these mental structures to encode and retrieve information. Because active learning encourages students to think more deeply about the material, that is, in a more meaningful way, it is effective in improving students' learning (e.g., Bonwell & Eison, 1991; Cherney, 2008; Yoder & Hochevar, 2005). Cognitive psychologists have shown that more meaningful processing (i.e., levels of processing) of information promotes better recall (e.g., Craik & Lockhart, 1972). Elaboration of the material, which involves interpreting information, connecting it with other information, and mulling it over is an important aspect of deeper encoding of information. Other techniques that strengthen encoding and that promote deeper thinking are conscious retrieval of the information, practice that is distributed in time (Smith & Kosslyn, 2007), and generation of questions about the material (e.g., Carroll, 2001; Dietz-Uhler & Lanter, 2009). In addition, distinctiveness, and information that is self-referenced facilitate memory for course content (e.g., Cherney, 2008; Hartlep & Forsyth, 2000; Roediger, Gallo, & Geraci, 2002; VanderStoep, Fagerlin, & Feenstra, 2000). Because the self is an existing well-developed and well-practiced network of knowledge, it offers potential for both elaborative and organizational processing. For example, VanderStoep and his colleagues (2000) found that, in a free recall task, students tended to remember atypical events better. Cherney (2008) showed that students remembered active learning materials better than material that was not introduced through active learning across introductory and upper-level

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psychology courses. Vivid anecdotes and demonstrations improved the memory for course content. In addition, student understanding was significantly enhanced when the material was connected to the self and real-life concrete experiences (Cherney, 2008).

Learner-Centered Teaching

In an active learning paradigm, the instructor strives to optimize learning through multiple aspects of learner-centeredness. Classes become about students' learning, not about instructors' teaching. Instructors become the facilitators of learning. Learner-centeredness shifts the responsibility to the students, who in turn have to actively engage in the learning process with their instructors and peers. Learner-centered instructors assess the process of learning throughout and upon completion of a course. These assessments allow instructors to address any misunderstandings or to tailor their teaching to the students' needs.

In sum, learning is a "meaning-making" process. New learning happens when we make connections between existing concepts, knowledge, and experience. These new links can only be created by the learner. One of the challenges for instructors is to impart knowledge of a discipline to students who have limited attention and limited prior knowledge of the concepts. Many students have not established an elaborate network of structures to build upon and create memory cues that will enhance their knowledge of the material. However, not all activities will create new knowledge. Activities that require the learner to create constructs of important concepts and then connections between these constructs are not enough. Students must also think and reflect about the experience. They need to explain the concepts to themselves, to their peers, and to the instructor. This reflection is the active meaning-making process in action; it gets the students to form concepts and schemata, to improve them, to use them repeatedly, and to create those long-term links that make the subject "make sense." If students understand why information is important and useful, if their curiosity is piqued, if they are appropriately challenged, and if they perceive relevance of the content, they will be willing to exert more effort and will perform better as a result.

What are the Barriers to Active Learning?

To address why some faculty have not embraced recent calls for this educational reform, it is necessary to identify and understand common barriers to instructional change, including the powerful influence of educational tradition, faculty self-perceptions and self-definition of roles, the discomfort and anxiety that change creates, and the limited incentives for faculty to change. According to Michael (2007) the barriers fall into three categories: (a) student characteristics or attributes (e.g., students do not know how to do active learning, they are unprepared or unwilling to engage in active learning), (b) issues directly impacting faculty (e.g., it takes too much preparation, faculty have less control over the class, poorer evaluations, there is no reward structure, or faculty do not know how to do it), and (c) pedagogical issues (e.g., classroom set-up does not lend itself to active learning, it takes too much class time, student assessment is difficult, class size, hard to predict learning outcomes or quality control).

Changing from a teacher-centered to a learner-centered classroom can be difficult for both instructors and students. For instructors, the most difficult part of the transition may be giving up control of the classroom — control over content, how much time is spent on it and what is discussed. In addition, faculty members' efforts to employ active learning involve risk--the risks that students will not participate in the activities, that they will not use higher-order thinking, or will not learn sufficient content, or that faculty members will lack the necessary skills, or be criticized for teaching in unconventional ways (Michael, 2007).

Although many of the faculty perceptions are correct, others are not. Understanding faculty perceptions about the barriers to active learning in their classrooms is the first step in devising strategies for helping faculty change the way they teach. Careful and thoughtful planning will successfully overcome each barrier and type of risk. There are several ways that faculty can learn to incorporate active learning activities in their classrooms. Many institutions offer teaching development programs and opportunities that provide faculty with a peer-review network, feedback from colleagues willing to observe classes, or funding for the scholarship of teaching and learning (Johnson, DiLillo, & Garbin, 2010). Some workshops offer faculty new ideas and insights about techniques that can facilitate active learning in their classrooms. "How-to" books are readily available and some institutions use teaching portfolios to track teaching growth over time. These summaries of reflections and materials on one or more courses can be helpful for the faculty to demonstrate efficacy of student learning. However, for such workshops to be successful there must be institutional resources in place that will push faculty to incorporate these new techniques into their courses. Garet, Porter,

Desimone, Birman, and Yoon (2001) found that exposure to new ideas and the practice of these new ideas is usually too brief to achieve a significant change in faculty's classroom behaviors. In addition, there is a lack of reinforcement and follow-up. As a consequence, faculty tend to continue teaching the way they have always taught.

In sum, instructors perceive many different barriers to building an active learning environment in their classroom. These perceptions shape instructor and student behavior in the classroom. However, creativity, flexibility, institutional resources and support can overcome the perceived barriers. Teaching is like any other scholarly activity. It takes considerable effort and time to acquire the repertoire of materials, abilities, and habits of a competent teacher. Moving teaching into a public enterprise where disciplinary and institutional colleagues can discuss teaching will help change the institutional culture in which ideas and innovations are open to scrutiny and debate (e.g., Michael, 2007).

How Can Active Learning be Incorporated in the Classroom?

Researchers have reported several active learning strategies that favorably influence students' attitudes and achievement. This section will discuss a limited number of techniques that enhance student learning and that are easily incorporated into the classroom.

Class Discussions

In-class discussion and participation are common strategies promoting active learning. If the objectives of a course are to promote long-term retention of information, to motivate students toward further learning, to allow students to apply information in new settings, or to develop students' thinking skills, discussion is preferable to lecture (McKeachie, Pintrich, Lin, & Smith, 1986). Research has suggested, however, that to achieve these objectives faculty must be knowledgeable of alternative techniques and strategies for questioning and discussion and must create a supportive intellectual and emotional environment that encourages students to take risks (Lowman, 1984). Silberman (1996) offered 10 methods to increase class participation: open discussion, response cards, polling, subgroup discussion, learning partners, whips, panels, fishbowl, games, and calling on the next speaker (pp.16-18). These strategies have in common that they break students into subgroups, they spark the energy and involvement of all students, and they provide the instructor with valuable assessment information.

Visual-based instruction

Visual-based instruction can provide a helpful focal point for other interactive techniques. Today, PowerPoint lectures are ubiquitous. A possible drawback of this computer-based method is that students may falsely assume that all the information they need to know is on the slides. In addition, interaction between instructor and students and student attendance may suffer from using slides. However, whether instructors use PowerPoint in class is not necessarily the critical issue here, but rather how the instructor incorporates active learning into the classroom. For instance, Hardin (2007) found that it is the instructor's teaching ability, not the use of PowerPoint slides, which has the greatest effect on students' learning in the classroom. Student learning is likely to benefit when an instructor makes use of the advantages of PowerPoint slides, such as providing illustrations and images, connecting to websites for instructional purposes, and allowing more time for students to listen and engage in class discussion. Providing PowerPoint slides and course-specific websites in advance of classes are also excellent tools to keep students ready to participate in active learning activities during class and have a positive effect on academic achievement (Hove & Corcoran, 2008).

Content-based questions

Another way to enhance a PowerPoint lecture is to use the slides in conjunction with content-based questions (CBQ). Gier and Kreiner (2009) provided students with traditional PowerPoint handouts or handouts with CBQs. The latter included three question sets consisting of ten questions each over the covered material. Discussion of the questions lasted approximately 10 min during class. The results showed that incorporating CBQs into a traditional PowerPoint presentation increased learning in two different courses and with both between-subject and within-subjects comparisons, suggesting that the results can be generalized to other courses.

Personal response systems

In-class questioning can also be done by introducing "clickers" or personal response systems to a PowerPoint presentation. Clickers increase class participation and student learning (e.g., Shaffer & Collura, 2009; Smith & Hill, 2011). Students typically rate lectures using clickers as more interactive, interesting, and entertaining. But not every computer-based or technology-assisted interaction enhances learning. Although technology-assisted instruction tends to be associated with increased student motivation, enjoyment, and

development (Forsyth & Archer, 1997), learning outcomes are not always superior in technologically assisted classes (DeBord, Arguete, & Muhlig, 2004; Pemberton, Borrego, & Cohen, 2006).

Case studies

Another active learning technique that can be effective in class is the use of case studies. Case studies are often used in Abnormal Psychology courses to illustrate different psychopathologies or in Research Methods and Statistics courses to illustrate different problem situations. Others can easily be developed for use in other courses. For example, Miserandino (2007) asked students to apply the five factors of personality to Johnny Carson's personality using his *New York Times* obituary. Students both enjoyed the activity and later scored higher on an essay question and related concepts than those who did not take part of the case study.

Microtheme writing assignments

Other important active learning techniques involve in- and out-of-class writing assignments. Stewart, Myers, and Culley (2010) used in-class microthemes or short in-class writing assignments to enhance psychology students' mastery and retention of course content, stimulate active learning, and improve writing quality. To achieve these goals, they provided 10 graded writing assignments throughout the semester to prompt students to think critically about and apply the course topics. Discussions followed to further stimulate active learning and feedback by instructors. Researchers graded the essays using rubrics assessing accuracy, thoroughness, application of course concepts, and writing quality. Their results showed that students who completed the microthemes retained more of the course material and developed better writing skills than those who did not (Stewart et al., 2010).

Ticket-in technique

A similar active learning technique that is based on reflective writing is the "ticket-in" technique. I have used this technique successfully for an honors introductory psychology course. For each chapter, I provided students with a list of 3-5 applied questions that pertained to a concept discussed in their textbook. They reflected on one of those topics and came up with their own questions. For example, for the chapter on cognition, one of the ticket-in questions was: "*Expertise*. A critical aspect of human cognition is our amazing ability to store and retrieve large amounts of data. What is your expertise? How did you gain expertise in this area? What sort of training did you undertake to become an expert? Are you an expert in some topic that might be considered

semantic (academic) or procedural, such as a craft or a sport? Does expertise in these areas draw on the same or different cognitive processes?" Their short reflections became their tickets to class. The questions that they raised were then used in the classroom to discuss the various concepts in more details. Compared to another honors section (control group) that did not have the ticket-ins, the average grade for the experimental class was significantly higher. On their final comprehensive exam, the experimental students scored an average of 95% (compared to 88% for the control) and I received a perfect score on my teaching evaluation in this particular section ("How would you rate the teaching in this course").

Four-Question Reflective Learning Technique

Out-of-class writing activities and experiences are also powerful learning tools. Dietz-Uhler and Lanter (2009) used a four-question reflective learning technique to enhance student learning. They asked introductory psychology students to complete a web-based interactive activity about either the prisoner's dilemma or the self-enhancement bias. Students responded to four questions that encouraged analysis (i.e., what was learned), reflection (i.e., why is it important), connection (i.e., how does the material relate to their lives), and generation (i.e., what questions about the material remain). A performance quiz showed that students who had responded to the questions prior to the quiz did better than those who did so after the quiz. This process, according to the authors, allowed students time to reflect on the questions, thereby increasing comprehension. Similarly, Johnson and Kiviniemi (2009) found that quizzes administered prior to the beginning of an introductory social psychology course significantly improved students' exam grades on multiple-choice and essay questions. Presumably, the required quizzes encouraged students to study gradually instead of cramming the night before an exam.

Learning by teaching (LdL)

Another efficient instructional strategy that mixes guidance with active learning is "Learning by teaching" (Lernen durch Lehren or LdL) (Martin & Oebel, 2007). This strategy allows students to teach new content to each other. This methodology was introduced in Germany during the early 1980s, and is now well established in all levels of the German school system. This educational model is different from presentations made by students in class, because

with LdL, students choose their own methods and didactic approach to impart the content to their peers.

Students can also present either an assigned or a freely chosen topic to their classmates. With proper guidance, students can give the presentation by using PowerPoint, Photostory, YouTube, or other creative technologies. Students can also be divided into subgroups where each designated speaker reports back the group's findings. Students completing research methods and lab courses frequently have to carry out a full experiment, that includes designing the protocol, getting IRB approval, collecting and analyzing data, writing an APA-style research paper, and presenting a poster to the community or conference audience. These active learning experiences allow students to apply what they have previously learned and link that information to existing knowledge networks.

Cooperative Learning and More

Other effective active learning pedagogies worthy of instructors' use include cooperative learning, debates, drama, role playing and simulations. In short, the published literature on alternatives to traditional classroom presentations provides a rich menu of different approaches faculty can readily add to their repertoire of instructional skills. Some of these active learning strategies can be used both in face-to-face interactions and during online teaching and learning. Faculty are increasingly encouraged to incorporate instructional strategies to support a learner-centered approach through the use of innovative technologies that promote active engagement through Internet applications. The online environments that students are using include tools that support interaction with peers and teachers, and online discussion. For example, collaborative learning software applications such as Wimba and social media (e.g., blogs, Twitter, Facebook) allow instructors to create collaborative peer groups so that students can present their work online, collaborate on case studies, share their experiences and knowledge, and communicate synchronously or asynchronously with one another. Ellis, Goodyear, Prosser, and O'Hara (2006) reported that students adopting a "deep approach" (i.e., learning through online discussion) received higher course grades whereas there was no significant difference between deep and surface approaches to face-to-face discussion and course grade. "Deep approaches" here refers to the intention to understand the concept being studied and "surface approaches" to the intention to reproduce the description of the concept (Prosser & Trigwell, 1999).

Not All Demonstrations Lead
to better learning

As previously mentioned, not all active demonstrations lead to better retention of material. For example Copeland, Scott, and Houska (2010) showed that adding computer-based demonstrations to an upper-level cognitive psychology course did not necessarily enhance learning. Although students preferred participating in demonstrations to just doing readings, they did not always benefit from those demonstrations. Similarly, Gurung (2004) and Brothen and Wambach (2001) found that use of pedagogical aids, such as chapter summaries, practice tests, and on-line quizzes was not related to exam performance.

Conclusions

Not only do active learning exercises help students learn (Cherney, 2008; Lawson, 1995), they also increase their confidence with class materials (Townsend, Moore, Tuck, & Wilton, 1998). Teaching at its finest requires that instructors consider every educational tool at their command – an assortment of techniques and technologies – to provide their students the richest educational experience possible. Active learning enhances student retention of concepts (Cherney, 2008), particularly when students are the authors of their own learning (e.g., Hovelynck, 2003; Landrum & Nelson, 2002). Reaching every student in the classroom may be particularly challenging in large introductory classes, but the challenge is not insurmountable. Despite the benefits of active learning, obstacles such as class size, lack of materials and resources, and limited class time may limit the use of active teaching methods. The effectiveness of lecture material may also be limited by a lack of feedback about student learning, students' passive listening, and poor suitability for teaching higher order thinking. Because instructors teach the same concepts regularly, it is important to better recognize how students learn best, and which active learning exercises students remember and which exercises yield the highest achievement. Identifying which activities are particularly memorable allows instructors to incorporate those again in subsequent semesters to assist students in developing the necessary knowledge network.

Overall, students learn best from being actively engaged in the material. As cognitive psychologists suggest, information that is unique and can be integrated into an existing knowledge base is more

memorable (Symons & Johnson, 1997). Information processed at a "deeper" level (Craik & Lockhart, 1972) involves closer attention, focusing on an item's meaning and relating it to something else. In- and out-of-class exercises provide students with more time to encode information as well as more unique ways to consider that information within a different context, perhaps creating an image of the item in relation to another item. They may also provide additional possibilities to make connections with the material using individuals' existing knowledge base which can act as a powerful retrieval cue.

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Using Reflective Journaling in the College Course

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At a time when pedagogical authors recommend active learning and critical thinking (Barkley, Cross & Major, 2005; Biggs (1999); McKeachie, 1999), journaling encourages student thought, inquiry, and synthesis of thoughts with course information. This usually occurs through written communication, and often includes behavioral and emotional involvement as well as self-expression. Although instructors often assess student knowledge by requiring students to write about course content in papers and short-essay exams, journaling can informally measure the same student knowledge. Reflective journaling differs from other journaling types in that students apply material to their own lives rather than just summarizing course content. For example, instead of defining chapter terms, students apply those same terms to a problem they have had in the past or may have in the future. In sum, students integrate their course material with their own life experiences.

After addressing the benefits of reflective journaling for both faculty and students, we discuss what instructors should consider before using reflective journaling in their classes. We then describe two specific journaling assignments used in our introductory psychology classes.

Benefits of Reflective Journaling

Both students and professors benefit from reflective journaling assignments. Researchers exploring these benefits in college settings found that journal writing influences students' educational experiences in the following ways.

Content comprehension. Compared to students enrolled in classes without journal assignments, students completing journals over the course of the semester perform better on exams (Conner-Greene, 2000). Those same students also report that journal assignments assist them in understanding and applying concepts presented in class. Not only do reflective journals assist students in understanding information, the same assignment informs instructors when students are not understanding the material (Strong, Silver & Perini, 2001).

Metacognition. In addition to analyzing content, students are more likely to analyze themselves when writing reflective journals. Such journals promote reflection on and articulation of students' thinking and problem solving strategies (Fogarty & McTighe, 1993). Students become better at recognizing and addressing their deficits while, at the same time, improving problem-solving skills (Clarke, Waywood, & Stephens, 1993). Finally, reflective journals can assist students in effectively acquiring and transferring cognitive and metacognitive skills across disciplines (Perkins, Simmons, & Tishman, 1990).

Self-Efficacy. Fritson (2008) examined the effects of reflective journal type (cognitive distortion vs. general reflection) on self-efficacy. She hypothesized students' contemplation of various cognitive distortions and situations would increase self-efficacy, and used journaling as a means for students to write about their own cognitive distortions. Results indicate journaling influences students' self-efficacy in that students showed significant improvements in self-efficacy by mid-term of the semester.

Student engagement. Journal writing also influences student engagement in a variety of ways. First, the instructor learns more about his or her students. Student journal writing and the corresponding faculty comments create an environment of trust and mutual respect. Students believe that their instructors want to know more about them, and instructors can use some of the information as examples in class (with student permission of course). Students who believe their instructors care about them are more likely to attend regularly, participate in class discussion, and ask questions (Klem & Connell, 2004; Libbey, 2004). Students who journal take more responsibility for learning, actively engage in the reflective process, and perceive journal writing as a student-centered approach (Cole, 1994; Conner-Greene, 2000; Hettich, 1990).

Career skills. This activity is similar to reflective writing encouraged in medical (Dyrbye, 2005; Thorpe, 2004), education, (Cooner & Dickman, 2006) and counseling programs. Therefore, students who learn to self-reflect early in their academic careers have an advantage over their fellow classmates who have not written reflective journals. First, they have more experience writing about themselves. Second, they have more experience

evaluating their strengths and weaknesses. The latter task can be difficult for anyone.

Considerations for the Use of Journal Writing in the College Classroom

As with any new teaching technique, a little forethought goes a long way. For those planning to implement reflective journaling in their classes, consider these issues.

Electronically or directly submitted. Many faculty fit in one of two teaching categories: the "technogeek" or the "technophobe". As a result, we expect that those who use more technology in the classroom and online will prefer e-mail journals and responses or the built-in assignment tools of web systems such as Blackboard and Moodle (King & LaRocco, 2006). SafeAssign is a package available with course presentation software allowing instructors to grade papers on their laptops from any location. SafeAssign also checks each submitted paper for plagiarism by comparing it to other submitted papers and information on the web. There are also no more lost papers! Those instructors who prefer grading actual sheets of paper will continue to assign typed or handwritten journals. The format is less important than your and your students' comfort with that format.

Personal or impersonal. How much do instructors really want to know about their students? One way to avoid "too much information" is to encourage students to analyze positive events in their lives. This way faculty can still maintain the boundaries between student and teacher and avoid information that is too personal. As a guideline for student sharing of information, ask students not to write about any life experiences they would be uncomfortable hearing from their teachers, their parents, or their grandparents.

Regular or irregular. Instructors using reflective journals recommend multiple journals at regular intervals (Dunlap, 2006; Fritson, 2008). However those same instructors disagree on how many journals should be assigned over the course of the semesters. Conner-Greene (2000) found that groups of students writing either 5 journals or 15 journals over the course of the semester both outperformed non-writers. These results suggest that writing journals improved course performance regardless of how many journals students completed. Before determining the number of journals to assign, instructors should consider student enrollment within and across courses as well as how quickly they can grade the journals while still offering constructive feedback. Then they can assign the optimal number of journals for themselves and their students.

Structured or unstructured. Instructors can structure journaling by providing specific course material, topics, or objectives to students. However, unstructured journaling allows students to reflect on self-identified information from a course or experience. It is also possible for journal assignments to become less structured over time with early assignments providing more guidance for students and later assignments less. By using the latter technique, students gradually become more responsible for deciding which course information should be included in their journals.

Low stakes or high stakes. Although some instructors recommend a low or even no stakes approach to grading reflective journals (Longhurst & Sandage, 2004), others suggest that without grading, students are often not compelled to complete such assignments (Dunlap, 2006). Costs and benefits exist for each strategy. Although some students may not spend as much time on the assignment if the grade is not commensurate, other students may not take the risk of relating the concepts to their lives and instead rely on easy to understand definitions and simpler examples they know will score points.

Individual or group feedback. Regardless of whether the assignments are graded, timely feedback illustrates to the students that the instructor values the task he or she has assigned. For example, if your first journal assignment is designed to help students get ready for exam one, it follows that feedback provided at least a week before exam one will be the most helpful. This is especially important when students misunderstand or misapply terms on which they will be tested. When instructors pinpoint these mistakes earlier, student misconceptions are corrected earlier. Even if the journal writing is designed to have students reflect on and learn from a volunteer, internship or practicum experience, feedback should be given before students begin working in a new setting.

Some instructors suggest that providing individual feedback is daunting when teaching large lecture classes and rely instead on group feedback. Group feedback can take the form of an email or discussion board posting to all students, addressing common themes or errors noted across journal entries. One concern with group feedback is that generalized comments may imply to students that although the assignment is important enough for them to complete, it is not important enough for the instructor to grade. Although having the instructors assess journals themselves results in greater student engagement and a stronger connection between students and teachers, other options include fewer

journal assignments or the use of a teaching assistant to aid in grading and more importantly providing feedback.

The following journaling strategies provide some structure to the students. One strategy focuses on intrapersonal experiences and is mostly observational, introspective, reflective, and communicative. The second strategy provides more direction and structure to the students regarding specific course concepts and how those concepts relate directly to the students' lives.

Two Journaling Strategies

Strategy #1: Cognitive Distortion Journals

The goal of this journaling strategy is to promote intrapersonal growth and improve student understanding of course material. This journaling idea originated from research that explored whether teaching students cognitive-based strategies to refute distorted beliefs would improve students' self-efficacy. The cognitive strategies include components of Aaron Beck's cognitive therapy for depression. Students write on one cognitive distortion each week. (See Appendix A for the cognitive distortion list.)

Instructor's description. "All or Nothing" thinking is a form of thought distortion in which an individual perceives the world in "black and white" terms. Such a person often idealizes or hates something. An example might be that a person believes she must be a straight A student to achieve success in college, so when she receives a grade such as a B or C, she might say to herself, "I'm stupid, I can't do anything right. I'm probably going to flunk out of school." Another example would be the person who exercises daily, and believes that if he misses one "workout" he is lazy or that the effects of not working out erase the benefit of other exercise. This type of thinking reflects extremes of "all or nothing" instead of recognizing moderation or balance.

Instructor's assignment. Now I want you to pay attention this week and identify a time when you use "All or Nothing" thinking. Consider the situation you are in and your thoughts, feelings, and behaviors. Next, change your thought from "All or Nothing" thinking to some level of moderation. An example (following from one of the previous examples) might be "Exercise is important, but moderate exercise is wise, so if I miss one day of working out it probably allows my muscles to recover. It means I'm taking care of my body." After you change your thought, identify the changes in your feelings, behaviors, and thoughts regarding yourself and the situation. Finally, I want you to journal about "All or Nothing" thinking using the following format (See Appendix B for the chart students used as an outline for their journals).

1) Define "All or Nothing" thinking,

2) Describe a situation when you used this type of thinking,

3) Reflect on the situation and describe your thoughts, feelings, and behaviors as a result of "All or Nothing" thinking,

4) Identify and discuss how you changed or could have changed your thinking in that situation,

5) Discuss the changes in your thoughts, feelings, and behavior as a result of changing your "All or Nothing" thinking, and

6) The journaling must be three quarters of a page double-spaced or hand written.

Students complete journals outside of class and hand them in on a weekly basis. The instructor then introduces a new cognitive distortion and students complete the assignment again. Students complete 10 journals over the course of the semester and receive up to 10 points for each assignment. The instructor grades students' journals in accordance with the instructions, not on grammar or writing technique.

Strategy #2: Applying Learning to Living

Instructor's description. The goal of this assignment is to assist students in improving their comprehension of course content. This improvement occurs because students are considering course material at a deeper level. Instead of rote memorization or achieving just knowledge, students apply text and classroom materials to discussions of their pasts or their futures. Instructors encourage their students to analyze those experiences using terms from the course.

Instructor's assignment. In the life span development course students often confuse theoretical perspectives and, although they understand the definitions of nature, nurture, continuous and discontinuous development, they often find it difficult to recognize which psychologists based their theories on these perspectives (terms). Also, because most students are traditional college age, many fail to see the relevance of the course content to their lives.

To assist you in understanding this information as well as developing an appreciation for the course, write about your earliest childhood memory with a primary caregiver (e.g., mom, dad, grandparent). Why was this interaction important to you at the time, and how has it influenced who you are today? When discussing this event, be sure to use the following terms when appropriate: normative development, non-normative development, cognitive, social, personality development, context, continuous and discontinuous development, nature and nurture. Papers are to be up to 2 pages typed and double-spaced.

Note the list of terms included because it is the first journal. Students often write about experiences such as learning to ride a bike, first day of school, or the birth of a sibling. Why does having students write about personal early childhood experiences improve their comprehension of course material? Previous researchers compared the learning outcomes of individuals who evaluate words for meaning to those who memorized the same words. Craik & Tulving (1975) found those who associated meaning with the words remember significantly more information. One of the best study strategies for making information meaningful involves relating it to the self (Symons & Johnson, 1997; Wagar & Cohen, 2003). Students are more likely to remember novel information when that information is personally relevant, which is known as the self-reference effect.

How Journaling Influences Student Engagement

Given that self-confidence relates to students' willingness to participate in classroom activities (Hyde & Ruth, 2002; Karp & Yoels, 1976; Weaver & Qi, 2005), there should also be increased student participation and engagement in the classroom. In fact, journaling may promote direct engagement through the process of writing about and evaluating experiences, intrapersonal growth (improved self-efficacy), and a greater willingness to engage in other forms of classroom activity.

Handlesman and colleagues (2005) note that Emotional engagement is often hidden to faculty unless specific assignments, in this case the reflective journal, address the connection between course material and student life. Across four sections of classes and two instructors the outcome was clear. Compared to their other general studies classes students rated their classes where reflective journals are used as more emotionally engaging. Specifically, self-report measures indicate these students are more successful in finding ways to make material relevant to their lives, applying the material to their lives, finding ways to make the material more interesting, and thinking about the course material between classes. Finally, compared to their classes without journal assignments, the students in classes with journals report a greater desire to learn the material.

Our Reflections

Although journaling techniques can vary, what remain consistent are the mutual benefits received by students and faculty. Students become more engaged as their instructors use examples that are not just familiar, but relevant. The learning relationship becomes more reciprocal and students become more reflective of both the course material and how to best learn that course material. Finally, teachers have the opportunity to connect with each student regardless of class size. For example, our journaling experiences occur in multiple sections of large lecture classes averaging 80 students. As a result, we know our individual students, their abilities, and sometimes their struggles. We become more engaged with them. Now they are not just a sea of students in a lecture hall, they are Alejandra, Jerod, Nate…

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Appendix A

Ten Forms of Distorted Thinking

1. All or Nothing: This is the tendency to see situations as either black or white.
2. Overgeneralizations: This is drawing a conclusion based on a single event or small piece of evidence.
3. Filters: We only see what we want to see in a situation.
4. Magnification: This is the propensity to make mountains out of molehills.
5. Labeling: Putting tags on people or situations that are one dimensional.
6. Jumping to Conclusions: This is making snap judgments or assumptions.
7. Shoulds: This is following an inflexible rule list regarding how the world at large "should" behave.
8. Blaming: This is either holding yourself blame-worthy or else constantly pointing the finger of blame at others.
9. Disqualifying: A person reverses a compliment so that it really becomes a put down.
10. Mistake of Control: These are thoughts of feeling totally helpless or that you must be in complete control of a given situation.

Appendix B: Sample Outline for Cognitive-Behavioral Journal Assignment

Distortion	Situation	Thoughts/Feelings/Behaviors	New thought	Changes
All or Nothing thinking	Write description of situation	Write your thoughts/feelings/ behaviors about to the situation	Alter your thought from all or nothing to a different type of thinking	What do you think, feel and do now…?

Increasing Student Engagement with a Motivational Interviewing Strategy

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Student engagement is more than a response to appropriate reinforcement in the learning environment. Although we can certainly devise methods to externally reinforce behaviors in students whom we have identified as engaged (Handlesman, Briggs, Sullivan & Towler, 2005), most college faculty have a broader goal of learning in higher education, that of producing a self motivated learner who knows how to learn, to acquire new information and skills (Maclellan, 2008). To accomplish this, students need to become self-regulated, mindful of their own motivation and reasons for learning, and conscious of how they wish to balance the competing demands of life and learning. This perspective acknowledges that students make choices on a daily basis, about how much time and effort they will expend on school related, versus other activities.

A number of chapters in this book give suggestions for increasing student engagement in specific courses, by changing our behavior as instructors, or the way we offer information or other activities of learning. Although all of these methods are likely to increase engagement in the specific course where they are used, they may not generalize beyond that course. For example, a more engaging introductory psychology course may help a student choose to be a psychology major, but increased engagement for the learning of psychology will probably not translate to the required statistics course. We present a specific motivational approach that will help students re-engage with their learning, including classes they might not perceive as immediately relevant.

Student engagement is characterized by two types of outcomes: class related behaviors (e.g. attending, participating, completing assignments), and the students' investment in learning (e.g. motivation, persistence and self-regulation of learning) (Rachal, Daigle & Rachal, 2007). Our intervention is designed to address the second outcome, that of increasing student motivation toward learning efforts. Students need to develop the will to set learning goals, be committed, develop a positive attitude toward learning, and maintain their motivation to engage in learning behaviors.

We believe that maintaining motivation is not an inborn quality of good students but is something that can be learned as a part of basic academic self-regulation. Literature on student engagement and retention has suggested a number of characteristics that are associated with students who are more successful (Cano & Berben, 2009; Handelsman, Briggs, Sullivan & Towler, 2005). These include elements of intrinsic motivation like self-determination, competence, task involvement, curiosity, enjoyment, interest and having a goal orientation (Amabile, Hill, Hennessey, & Tighe, 1994; Kuh, Hu & Vesper, 2000). Once students decide to be more engaged, they can then develop the necessary skills to accomplish academic tasks, and acquire a framework for deeper learning.

The challenge we have chosen is how to develop a more engaged attitude in students in lower division and general education classes, which often have a large impact on retention (c.f., Burchfield & Sappington, 2000). Our experience teaching these lower division courses suggests that engagement is a problem not just in class, but perhaps more so between class periods when we would like students to practice and prepare for the next class experience. We believe it is the lack of learning outside of class time that is of particular concern for lower performing students. We have adapted a motivational strategy used in clinical settings (Motivational Interviewing) for classroom use (Miller & Rollnick, 2002).

We adapted Motivational Interviewing (MI), which is an individual based brief clinical strategy, for use with small groups in general education courses with a trained practitioner. MI increases the motivation of a wide variety of clinical populations to engage in behavior change (Miller & Rollnick, 2002). It is uniquely effective for many different types of clients, including those who are considered involuntary and often the least motivated to change. A clinician using MI asks the patient about benefits and drawbacks (or challenges) of adopting a new

positive behavior, while maintaining a neutral stance to avoid reactance on the part of the client. By allowing clients to generate and verbalize the benefits and drawbacks of change for themselves, without pressure, the clinician increases the likelihood of engagement in counseling (Miller & Rollnick, 2002). Neutrality of the clinician is essential to this strategy so that clients are free to make their own decisions whether to change or not, thus avoiding the reactance clients often experience when they perceive pressure to change (Miller & Rollnick, guideline # 3).

In adapting MI to our classroom motivation strategy, we maintained the core element of neutrality while encouraging students to help each other develop lists of benefits and challenges of engaging in a specific learning behavior. Our adapted strategy can be used with small groups (up to about six groups of four to five students each) during a 15- to 20-minute class period. In a classroom setting, this means taking some time to allow students to consider their motivation with regard to an assigned learning activity (e.g. reading the textbook).

Effectiveness of the Motivational Strategy in the College Classroom

In a large scale test of our motivational strategy, we asked for student participants from four different courses, in three different disciplines, engaged in different tasks. We assessed task performance throughout the semester, and randomly assigned students to experience the intervention in either early or mid-semester. Each course instructor developed specific measures of student practice outside of class to determine whether the motivation intervention strategy was successful. Data collected suggest that the motivation intervention strategy improved student performance, particularly when used at mid-semester when students' motivation was lagging (Becker, Bishop, Miller, Vail & Mayer, 2009). For the students who experienced the intervention at mid-semester, we observed differential maintenance of student effort at the end of the term across three of the four classes, with different content, faculty members, class sizes, and levels. These findings suggest that the strategy has potential that is not limited to one academic discipline. The motivation strategy may be adapted to the teaching of any subject and the practice of any skill set specified by the instructor.

We also found that faculty members can deliver the intervention in their own courses and have the desired effect, as long as a basic stance of neutrality about the learning behavior is maintained. We have to be clear with students that their performance on the class assignment is up to them and that we have no opinion about their decisions. During the project, faculty members went through a short training description of the strategy and received a script to follow for a 15-minute time frame. Our data suggest real potential for the motivational intervention in improving student performance of learning tasks, including reading textbooks in a timely way (e.g., Becker & Bishop, 2010).

Motivational Intervention

Step 1 Planning
Identify a specific learning task students have difficulty staying motivated to do. Examples of tasks include completing reading assignments, distributed study tactics, frequent short writing assignments, or other ongoing learning tasks of the course (assigned workbooks for example). Any learning task for which you have observed declining student performance would be appropriate.

Select a specific class day to do the intervention. Our results suggest just prior to mid-semester would be appropriate, because that is often when students seem to struggle with motivation. The strategy as outlined will take 15 to 20 minutes of class time at the end of the chosen class period.

Step 2 Introduction to Exercise
Introduce the exercise, remembering to stay neutral about whether students accomplish the learning task. The motivational strategy is designed to give students the opportunity to be mindful about their reasons for engaging (or not) in their ongoing learning. The instructor, despite his or her enthusiasm for the class, subject or assignment, needs to remain mindful of students' right to make their own choices about engagement.

To introduce the activity you could say:
This is an exercise we're going to do to help you figure out what you want to do about _____ (specific assigned classroom task). Very simply - I'm interested in finding out what is challenging about learning _____(task)_____ in a college class.

Because you are the ones learning to do __(task)_, you have some expertise on the challenges of doing this assignment. I'm hoping you will give me the benefit of your experiences by telling me how you think you will benefit from doing ____ (task)___, and also, by telling me what the challenges are.

Step 3 Weighing Benefits and Challenges
Have the students form groups of three to five members and provide them with a worksheet to record all the benefits and challenges of the learning

task. You can give them the following brainstorming instructions:

*Okay, what I'd like to do next is to have you do an exercise about _(the task)__. Are you all familiar with brainstorming? That means you just put down ideas without censoring them. Remember - there are **no right or wrong answers** to this. I'd just like you to think about the <u>benefits</u> and <u>challenges</u> of doing __(task)__. We're going to do this in groups of three to five people. Please get into small groups of no fewer than three and no more than five.*

When groups are assembled, hand out basic worksheets for recording the benefits separately from the challenges. This is helpful if you wish to collect the information to look at later. Have groups identify one person to be the recorder who will write down what all the group members contribute. Give students about five minutes to brainstorm for each section, until they are nearly out of ideas. Conduct the brainstorming for benefits and challenges separately, first benefits then challenges.

As the groups work, circulate, observe and encourage more responses if the students get stuck. It can help to suggest they be more specific or have more detail, or to encourage them to think about longer term implications, rather than just short term grade based implications. For example, working on a "mindfulness" task benefit, they arrive at "more relaxed." A long-term implication might be "better health," or "not having a heart attack." To use a business class example, maintaining an ongoing record of income and spending may have long term implications like "don't get into debt" or "have more money for fun things when I have a real job".

Instructions for benefits: *First, I'd like you to take five minutes and think about the **benefits** that you might get from doing __(task)__ for a whole semester. That is, try to think of as many good things that could come from doing this as possible. Be as creative as possible, while keeping it within some degree of reason! Try not to start on the challenges until I ask you to. Ready? Begin.*

After about four minutes:
One minute warning - get any last ideas for the benefits of doing __(task)__ onto the sheet.
Instructions for challenges: *Next, I'd like for you to think about the **costs** of doing __(task)__ for a whole semester. What do you give up, or lose - what kind of negatives do you see as a result of this? What challenges do you face as you attempt to accomplish it? Again, just give me all the costs and challenges you can think of. Ready? Begin.*

After about four minutes:

One minute warning - get any last ideas for the challenges of doing __(task)__ onto the sheet.

Step 4 Exploration of Brainstorming

During this step you explore the benefits and costs/challenges with the whole class. Create separate sections of the black/white board for benefits and costs and then have students contribute their ideas from the brainstorming exercise while you quickly record them on the board. You can use a round-robin approach where you get one suggestion from each group in turn, to keep them actively involved. After you've gone around once or twice to each of the groups you can open up the discussion to any that still weren't listed. Create the full list of the costs/challenges first. It is very important to be *neutral* during this exercise, and especially during this list-making process. Reflections of ideas are important, of course, but the overall approach has to be neutral and non-expert; the students are experts on their own experiences.

Repeat the process for all the benefits of the learning activity second, again taking care to stay neutral in the process.

Exploration instructions: *Now we'll take a look at what everyone came up with. Let's create a master list on the board by hearing one idea from each group as we go around. We may go around several times to get all your ideas up here. We want to get every major idea that your groups came up with. Let's start with the challenges of the __(task)___ and then we will do the benefits.*

Step 5 Motivational Intervention

After the benefits and challenges have all been listed on the black/white board, briefly make a point about the students' opportunity to make a decision about how they want to manage their own motivation. The wording here is relatively important so you may want to use the quotations more precisely than in the other instructions. This last step consists of a final rhetorical question and a final statement. To transition to the final question and statement, you can thank them for generating so much information about their experiences.
Final question: *"Hmmm . . ." or "I wonder . . ." (look thoughtful, perhaps as if this just occurred to you!) - "what would it take, or what would have to happen, that would make you decide that you will do __ (task) __?" (Pause - listen to any student input, briefly acknowledging it.)*
Final statement: *"Of course, it is up to each of you every day to decide if these benefits"* (point to benefits on the board) *"outweigh these costs and challenges* (point to challenges).

Discussion

This motivational intervention is designed to encourage students to take a more mindful approach to managing their engagement with learning tasks and to be aware when they are choosing short term gains (e.g., having fun with friends) over longer term consequences (e.g., being unprepared for an exam). The goal of this intervention is not to choose for the students, but to help make them aware of choices they are making every day with regard to their learning behaviors. Some students will probably choose not to engage in learning, after weighing the benefits and challenges; that is a potential risk of this exercise. These same students were probably not engaged already, so the motivation strategy may simply make them more conscious of the choices they have been making.

This motivational strategy also delivers feedback to instructors about students' perceptions of the value of the learning activities we set them. For example, you may find that a learning activity that you believe is beneficial to students is not perceived by them in the same light. The instructors who participated in our project discovered that they could improve their explanations of the intended benefits of assignments. Another area of instructor feedback concerns exams. If we believe that a learning activity is important (e.g., reading the textbook) our testing strategies should emphasize the relevance of the learning activity (e.g., drawing questions from the text reading and not just from lecture).

As a form of engagement, our motivational strategy is intended to increase student mindfulness of the power of their own choices and to help them develop academic self-regulation that will serve as an internalized motivation to engage in the learning process. Using the motivational intervention presents both risks and benefits to you as the instructor, and only you can decide if the benefits are worth the risks.

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Peer Learning and Its Applications to Undergraduate Psychology Instruction

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Humans have been teaching, and learning from one another for as long as they have been congregating in social groups. This often occurs with little effort. For example, in a preschool classroom a common occurrence is one child showing another child how to climb on the jungle gym, how to solve a puzzle, how to ask for permission, or how to do any number of tasks. Indeed, education theorists have long argued that learning is a social process (Dewey, 1916/1966; Vygotsky, 1978) and that knowledge is constructed via social interactions (Duffy & Cunningham, 1996).

Knowledge that is constructed out of social interaction is at the heart of peer learning. In the context of college settings, particularly in STEM disciplines (those disciplines in the Sciences, Technology, Engineering, and Math), researchers have shown peer tutoring or mentoring to be associated with effective learning and improved retention and progression through a degree program. Specifically, researchers have shown that course content retention and student attitudes toward learning are improved when students are exposed to information in the context of small, peer-led groups (Graham, 2002; Keeler & Steinhorst, 1995; Saunders, 1992).

Among the most visible research on peer learning in the STEM disciplines has been done in physics by Eric Mazur and his colleagues at Harvard University (e.g., Crouch & Mazur, 2001). Mazur and his colleagues argue that very little physics is learned from straight lecture or traditionally taught courses. Instead, he has shown that it is through cooperative learning activities that the complex reasoning skills that are often the learning outcomes of introductory physics courses emerge. Mazur developed a peer instruction paradigm for a "Physics for Non-Majors" course. This paradigm involves modifying a course taught with a traditional lecture format to a format that includes questions, during lecture, designed to engage students. The basic method is that each class is divided into a series of short presentations (perhaps 5 or 6 over a 50-minute class period). Each presentation focuses on a central point. Each central point is followed by a conceptual question (ConcepTest). Students formulate their own response to the question and submit it (presumably via clicker technology). Immediately after submitting, students turn to the students around them and discuss their answer, attempting to convince the other students that their answer is correct by highlighting the reasoning underlying their answer. After discussion, students re-submit their answer, which may have changed. Generally, students' answers improve after the discussions. That is, students get the questions right after having discussed the answers with their peers. Mazur and his colleagues have revised this paradigm a number of ways over the course of more than 10 years. Overall, they have found that this form of peer instruction has led to increased learning in introductory physics classes. Although there have been challenges to Mazur's claims about the power of peer learning, researchers have demonstrated that the peer learning benefits observed by Mazur and colleagues were not due to students improving because they are associating with students who already know the correct answers (Smith, Wood, Adams, Wieman, Knight, Guild, & Su , 2009) or because students have used the peer discussion time to engage in more self-reflection (Lasry, Charles, Whittaker, & Lautman, 2009). Instead, the power of improved learning rests with the peer interaction.

What accounts for the better performance stemming from peer learning? The effectiveness associated with peer learning or any other kind of interaction-based paradigm may be due, in part, to students engaging in *active* problem solving in the context of small groups (e.g., Rubin & Hebert, 1998). When students are actively, consciously, and intentionally engaging in information processing, they will produce better performances on tests of memory, problem solving, and other cognitive tasks. It is precisely this aspect of peer learning (the intentional sharing of knowledge for the purpose of completing a task) that makes the development of peer learning as a skill important to convey to university students (Eisen, 1999).

Peer mentoring can be instantiated in many forms. Peer-led team Team Learning (PTLT) is a peer-mentoring system that has proven effective in STEM disciplines (Gosser, Cracolice, Kampmeier, Roth, Strozak, & Varma-Nelson, 2001; Kampmeier, Varma-Nelson, & Wedegaertner, 2006; Tien, Roth, & Kampmeier (2002, 2004);Varma-Nelson, Cracolice, & Gosser, 2004). In PLTL, student mentors who previously (i.e., in an earlier semester) performed well in a target class hold recitation-like sessions with small groups of currently-enrolled students in which they engage in active processing of problems assigned in class. In addition to holding mentoring sessions, the mentors attend a regularly scheduled workshop with other mentors and a faculty overseer, who briefs the mentors on the course content for the week and then discusses leadership and teaching techniques that will facilitate the work in the recitation sessions. PLTL is effective in STEM disciplines such as chemistry (e.g., Lyle & Robinson, 2003; Sarquis & Detchon, 2004; Tien, Roth, & Kampmeier, 2002, 2004).

PLTL is just one example of a successful peer-mentoring program designed to increase learning in STEM disciplines. This and other peer-based programs (e.g., Calibrated Peer Review, Russell, 2004) share a common thread: Students teach each other. The most successful programs emphasize active learning. That is, successful programs employ teaching techniques in which learners consciously generate solutions to content-based problems. When students teach each other, barriers inherent in the faculty-student relationship (like an obvious power differential) are eliminated. Furthermore, both mentors and mentees "win" in a peer-mentoring system; mentors obtain teaching and leadership experience and mentees get individualized, custom-made teaching that accommodates their unique difficulties. Involved faculty also win by observing their students succeed in work done outside the classroom.

Researchers have paid relatively little attention to how peer learning programs have benefitted social science disciplines. Social science majors, including psychology, attract large numbers of students and are ideal venues for teaching scientific literacy skills and critical thinking. This need was the impetus behind the Peer Mentoring Center in the Department of Psychology at Georgia Southern University (GSU).

The Psychology Peer Mentoring Center (PMC) at Georgia Southern

The primary idea behind the PMC was to utilize the benefits associated with peer learning, and translate them from the STEM disciplines into a psychology curriculum. As readers of this volume are aware, psychology is a highly popular undergraduate major that is also challenging for some students because of the emphasis the discipline places on statistics, scientific methodology, and scientific writing. As a way to help students with the most challenging courses in their major, the psychology department at GSU implemented the undergraduate PMC. The PMC involved advanced undergraduates (juniors and seniors) serving as mentors for first-year and sophomore students enrolled in Statistics and Research Methods courses. The mentors also assisted other students who had not yet taken Statistics and Research Methods but who were enrolled in other psychology content courses (e.g., Developmental Psychology) requiring some knowledge of statistics and research methodology. Mentors enrolled in a supplementary peer mentorship course designed to help enhance their own knowledge and develop their skills as peer leaders. A faculty member trained the mentors to assist their peers in the areas of statistics, research methodology, and scientific writing as well as study techniques. The faculty member also trained the mentors to assist students in related non-academic matters like the undergraduate psychology curriculum and graduate-school preparation. The mentors did their work out of the PMC, a large, centrally-located office in the GSU psychology department. The PMC served as a resource center for both learning and general advisement. The ultimate goal of the PMC was to create a "pipeline" system, whereby current mentors would help recruit, select, and train future mentors.

A Closer Look at the Peer Mentoring Course

The peer mentoring course was a regularly-scheduled, 110- minute class for which the mentors received academic credit (in lieu of payment). In addition to teaching the peer mentoring course and assessing the mentors, the faculty member coordinated and oversaw the activities of the PMC, supervised the mentors, and oversaw the selection of new mentors.

The peer mentoring course followed a "workshop- style" format and followed the spirit of the successful PLTL approach (Gosser et al., 2001; Varma-Nelson et al., 2004). As stated previously, PLTL is a well-documented, successful way to teach introductory courses in STEM disciplines, especially chemistry and biology, but has not been applied to social science statistics and research methodology. In prior PLTL programs, student mentors attended a

weekly workshop and then led a small team of undergraduate students enrolled in a target course (similar to a recitation section). In the workshop, faculty briefed student mentors on the course content then engaged in discussion about peer teaching. The mentors took this workshop experience into the classroom, where they engaged with students in problem solving and reviewed other course-related content.

Whereas the workshop in "traditional" PLTL is yoked to only one class, this version tied the PMC to two: a statistics course and a research methods course, both of which involve teaching skills pertinent to doing research. Mentors met weekly in the workshop, intensely reviewing the content associated with both courses as well as the undergraduate psychology curriculum.

Other Activities in the Peer Mentoring Center

During the six hours per week that the mentors worked in the PMC, they worked directly (one-on-one) with students. In addition to providing one-on-one services, mentors also provided services via an instant messaging system. With this system, students working on an assignment at a remote location were able to "instant message" the PMC, so an available mentor could immediately address their question. If the mentor discovered that the issue would best be addressed with a more elaborate explanation, then the mentor would encourage the student to visit the PMC where the issue could be addressed more completely. The PMC was configured with six workstation areas, each equipped with a computer loaded with SPSS statistical and word processing software. Each computer was connected to the Internet, so that mentors could help students initiate on-line library searches.

Pilot Testing

The PMC started in the spring semester of 2008 with a small grant from the office of the Vice President for Academic Affairs. In that semester more than 160 students visited the mentoring center, with the total number of student visits exceeding 570. Across all students, duration of visits ranged from 4 minutes (generally for a quick clarification question on an assignment) to 90 minutes or more (to work on an APA-style manuscript). The average duration was 22 minutes. Based on comments from mentors, students needing the greatest amount of assistance were those who visited thecenter most often. This tendency was confirmed with a modest negative correlation between number of visits and grades, $r(54) = -.21$, $p = .058$. Open-ended comments offered by students who visited the center were generally positive and helpful. The mentors also showed improvement in their own knowledge of research methods and statistics. In a 100-item test of their knowledge of statistics and research methods, mentors' mean post-test score was significantly higher than their pre-test score (82 vs. 69 percent, $t(5) = -2.74$, $p < .05$). A group of non-mentors (juniors or seniors with the same level of coursework) did not show a difference in pre- and post-test score (both tests at 60%, $t(19) = 1.62$, $p > .05$).

Conclusion

Peer learning is a valuable and effective means by which students can acquire the content domain of an undergraduate course. The research literature on peer learning has concentrated primarily on the STEM disciplines, most notably physics. However, there is reason to believe that the principles underlying the success in peer learning in traditional STEM disciplines would apply to psychology. The PMC at Georgia Southern is an example of how a peer learning system can be implemented across several courses. More research is needed to examine the efficacy of instructional efforts like the PMC in order to better understand how peer learning paradigms can be employed to maximize learning in our courses.

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Do Podcasts Engage and Educate College Students?

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"From lectures and slideshows to gallery tours and interviews, podcasting engages students in ways the printed page can't." (Apple in Education website, circa 2010)

Advocates of higher education strive to promote student engagement in all aspects of college life. This e-book reflects the current trend by documenting the efforts of psychologists to engage students in our discipline and in college. Teachers of psychology have provided special opportunities outside the classroom and used technology such as interactive whiteboards and clickers to engage students and enhance their learning in classrooms. In this chapter, we explore whether, and how, podcasting engages and educates college students.

We define a podcast as a digital presentation to an audience via mobile devices or computers. The presentations can be audio-only (audio podcasts), audio and still images (enhanced podcasts), or audio and moving images (video podcasts or vodcasts). College teachers can learn about podcasts by perusing iTunes University (http://www.apple.com/itunes/), using a podcast search engine (e.g., http://www.openculture.com/), or exploring a book by Salmon and Edirisingha (2008) and its companion website (http://www.podcastingforlearning.com). Chapters in the book provide practical advice and guidance about podcasting to achieve educational objectives such as lecturing, collaborative learning, or reflective learning. The companion website hosts podcasts that illustrate chapter topics and techniques.

Although podcasting can accommodate instructors who have planned absences, proponents recommend podcasting for the benefit of students (McGarr, 2009). Podcasting makes learning flexible. For example, students can listen to podcasts on mobile devices (including MP3 players and cellular phones) wherever they are and whenever they wish. Podcasting also can help transform lecture classes into blended courses combining online instruction with the educational amenities of a traditional classroom.

We assume that our readers are instructors interested in but uninformed about either student engagement or podcasting. Our playlist for the chapter is simple. We discuss student engagement, student learning outcomes, and then review the literature on podcasting in higher education. For our swan song, we discuss the lessons learned.

Student Engagement

Educators understand the nature of student engagement and disengagement in higher education and accept the absence of universal operational definitions. Nonetheless, educators should know about two levels of research regarding student engagement. The basic premise underlying both institutional assessment and classroom assessment is that student engagement promotes favorable student learning outcomes.

One prominent institutional measure is the National Survey of Student Engagement (NSSE). The survey (http://www.nsse.iub.edu/html/survey_instruments_2010.cfm) includes questions regarding (a) level of academic challenge, (b) active and collaborative learning, (c) student-faculty interactions, (d) enriching educational experiences, and (e) supportive campus environments. The e-book chapter by Butler (2011) discusses the institutional assessment of student engagement and describes alternatives to the NSSE.

Mandernach's (2011) e-book chapter reviews classroom measures of student engagement. One example is the Student Course Engagement Questionnaire (Handelsman, Briggs, Sullivan, & Towler, 2005). The survey contains questions regarding skills engagement, participation and interaction engagement, emotional engagement, and performance engagement.

Two articles illustrate how to use items from the NSSE to measure student engagement in courses that employ internet and web applications. Neither study examined the influence of podcasts per se. Nonetheless, the studies suggest ways for researchers to measure student engagement and student learning outcomes when podcasts are the technology of choice.

Chen, Lambert, and Guidry (2010) added 13 questions to the NSSE in an institutional study of

student engagement in online learning environments. The participants were large samples of first-year (n = 8065) and fourth-year undergraduates (n = 9754) from 45 institutions randomly selected from the NSSE pool of 763 colleges and universities. The researchers identified positive relationships between the uses of instructional technologies and self-report of student engagement and learning outcomes.

Neumann and Hood (2009) adapted NSSE items regarding work with other students, cognitive endeavor, and skill development in a classroom study of learning to write reports in a statistics class. The results revealed better attendance and greater interaction with other students and course content for students working collaboratively in a wiki condition compared with students in an individual writing approach. Despite greater engagement by the students in the wiki condition, both groups improved their overall writing skills and achieved comparable scores on the research report, the intended student learning outcomes.

Student Learning Outcomes

Dingfelder (2010) described how graduate students, professional psychologists, and even departments communicate psychological research to worldwide audiences via podcasts. Given the number of these podcasts and their success with self-selected listeners, educators face several challenges when they think about how to use podcasts to engage and educate their own students. One challenge is that the various constituents (i.e., institutions, instructors, and students) may have different intentions and expectations regarding podcasts (Carvalho, Aguiar, & Maciel, 2009). For example, college students may not be as self-motivated as the self-selected listeners in the worldwide audience even though the same students may welcome an opportunity to create a podcast rather than write another term paper. A second challenge is the complexity of podcast formats. Carvalho et al. identified six dimensions of podcasts that include type, medium, length, author, style, and purpose. For example, podcasts of lectures by instructors likely will differ on all six dimensions when compared with vodcasts by students. A third challenge is that podcasts require instructors to consider student learning outcomes. Either professionally produced podcasts accessible online or instructor-produced podcasts may promote the knowledge base of students whereas student podcast projects may enhance skills of critical thinking and application.

Educators interested in using podcasts may feel overwhelmed by the challenges posed by constituents, formats, and course goals. For teachers

of psychology, the crucial decisions concern the options that best support the student learning outcomes adopted by their departments. Contemporary views about student learning outcomes (APA, 2007; 2008) favor producing "psychologically literate citizens" who exhibit disciplinary knowledge, skills, and values (Halpern, 2010). Beyond the introductory course, psychology students should manifest increasingly sophisticated outcomes (e.g., basic, developing, and advanced levels of proficiency). Ultimately, psychology students completing undergraduate degrees should be able to "implement their psychological knowledge, skills, and values in occupational pursuits in a variety of settings that meet personal goals and societal needs" (APA, 2007, p. 21).

Peden and Wilson (2009) indicated that much teaching of psychology involves lectures punctuated with active learning endeavors on the part of students. McGarr (2009) discussed the relationship between traditional lectures and podcasting in terms of a scale anchored by passive receivers of information (i.e., consumer of information) and active creators of knowledge (i.e., producers of information). In addition, McGarr distinguished three strategies for podcasting: substitutional, supplementary, and creative. Instructors can give students audio podcasts and thereby provide substitutes for lectures; however, this approach ensures students are passive receivers of information. In addition, teachers can use supplementary strategies that tend toward either greater passivity (e.g., instructor summarizes lectures or course content) or greater activity (e.g., students explore additional learning materials). Finally, instructors can adopt a creative strategy in which students produce and distribute podcasts to classmates and other learners.

The desired student learning outcomes should determine pedagogical strategies. For example, substituting a podcast for a lecture may contribute to the knowledge base of psychology (APA Goal 1), whereas creative strategies may foster skills such as critical thinking (APA Goal 3), application (APA Goal 4), and APA Goal 5 concerning values in psychology. Guertin (2010) and Salmon and Edirisingha (2008) provided numerous examples in which podcasting can contribute toward the APA liberal arts goals such as information and technological literacy (APA Goal 6) and communication skills (APA Goal 7). In addition, one can imagine how student podcasting assignments could promote personal development (APA Goal 9) and APA Goal 10 for career planning and development. In the next section, we will examine to what extent use of podcasting has engaged and educated college students.

Podcasting in Higher Education

Research on podcasting to engage and inform students in higher education is a newer endeavor, and one only recently undertaken by teachers of psychology. Published studies have focused on the knowledge base and have addressed student engagement as a secondary interest.

Student Use of Technology

Studies regarding the use of technology address questions about whether students listen to podcasts on mobile devices or computers, where students listen to podcasts (e.g., on the move or at home), and what length or type of podcasts students prefer. Three studies illustrate why educators need to assess the technological skills of their students.

Guertin, Bodek, Zappe, and Kim (2007) described an introductory geosciences course in which the instructor posted audio podcasts of the lectures in ANGEL, a course management system like Blackboard or WebCT. The authors tracked the pattern of downloads throughout the semester and surveyed students about their listening habits. About one-third of the 68 survey respondents were not aware that they could download the MP3 files to their mobile devices (e.g., iPods and cellular phones) or copy the MP3 files to compact disks (CDs) or flash drives. Even though the pattern of downloads indicated little activity, the users appreciated the availability of the lectures. Comments did not reveal where students listened to podcasts, but did indicate supplementary uses such as replacing a missed lecture, making up work after enrolling late in the course, filling gaps in class notes, and sharing the class with their parents.

Copley (2007) used Blackboard to distribute both audio podcast and enhanced podcasts to 482 undergraduates in marine science courses, track downloads, and survey anonymous volunteers at the end of the term (n = 84). Approximately 80% of the students downloaded the supplementary podcasts. Students more frequently downloaded the audio podcasts than enhanced podcasts. Moreover, the majority of students used computers rather than mobile devices to play both kinds of podcasts. Qualitative comments indicated the students used podcasts to revise lecture notes, take notes at their own pace, replace missed lectures, and complete their records. Three comments were intriguing. Students said they preferred vodcasts to audio podcasts; a result contrary to the pattern of downloads. Students also said they would not skip classes when lectures were available as podcasts. Finally, students proposed that professors should sometimes substitute podcasts for lectures and then spend class time on tutorials and small group activities. For readers interested in making their own podcasts, Copley provided clear and concise instructions about how to combine voice with slides to make enhanced podcasts.

Taylor and Clark (2010) described the experiences of both instructors and students with short, audio podcasts in a large study involving surveys and focus groups. The 4584 participants were undergraduate and graduate students in 20 courses from economics and business. Approximately 70% of the 1780 respondents listened to the lecturer's podcasts. Students favored supplementary materials (e.g., non-required information that supports teaching and learning activities such as introductions to required readings) over reframed materials (e.g., content presented in multiple media such as chapter summaries in both a handout and podcast). A similar percentage of students indicated that podcasts helped them engage in course materials and/or the class and that they appreciated the flexibility of podcasts (i.e., the ability to use podcasts in their own time). About 85% of the students owned mobile devices, but focus group members said they played podcasts on their computers. Focus group members also expressed an appreciation for the use of diverse media (i.e., re-framed, complementary, and supplementary material). In other words, students liked different teaching and learning activities as long as the activities fit both the course and the context. Finally, over 75% of the students liked the short audio podcasts and endorsed further use in the same course as well as related courses. The faculty also expressed positive comments about making and using short audio podcasts.

Hew's (2009) review revealed that most students listened to podcasts on computers at home; however, the results were mixed regarding what students prefer in terms of podcast length. Students were amenable to podcasts up to 20 minutes long, but often expressed preferences for shorter lengths such as 5 to 10 minutes (e.g., Taylor & Clark, 2010). One implication is that convenience in terms of access and time is more important than portability to students. A second implication is that educators should not make assumptions about students' use of technology, but should provide low-stakes assignments that require students to explore different options. Thirdly, instructors must accept the fact that some students just will not listen to podcasts.

Student Learning and Affective Outcomes

Most articles about student learning and affective outcomes focus on instructor-produced podcasts, but some discuss student-produced

podcasts. We, however, have found no articles evaluating use of podcasts produced by individuals external to a course (see Dingfelder, 2010). The authors of the articles seldom identify any desired student learning outcomes; however, they implicitly endeavor to develop the knowledge base for the discipline. The most common use of a podcast is as a direct substitute for a lecture or other source of information such as an article. The methodological question is whether the most appropriate comparison is between the presence and absence of a podcast or between different formats for the presentation of the same information (i.e., reframed material according to Taylor & Clark, 2010).

Hew (2009) reviewed three studies from disciplines other than psychology regarding the effects of podcasts on students' exam scores. Two of the studies revealed no mean differences. The remaining study produced a test score difference favoring the podcast condition over a transcript condition; however, the effect size was trivial. The three studies also revealed positive attitudes by students toward the use of podcasts. Like the results of the studies regarding student use of technology, the students perceived that podcasts helped them learn course content (cf. Daniel & Woody, 2010).

Two recent studies by psychologists examined student learning about a primary and reframed source of information. The first study by McKinney, Dyck, and Luber (2009) compared podcasts with lectures on the same topic, whereas the second study by Daniel and Woody (2010) evaluated podcast and print presentations of the same information.

McKinney et al. (2009) compared learning outcomes for podcast and lecture conditions in a classroom simulation (i.e., laboratory) study. College students received either a 25-minute lecture or a 25-minute enhanced podcast about perception. The dependent variables were note-taking, scores on a 50-question exam administered one week later during a second session, and study time. Of the 40 participants in each condition, 32 in the lecture condition and 34 in the podcast condition completed both sessions. Scores on the 50-question exam increased as a function of degree of note taking by the students, and the mean exam scores were significantly higher in the podcast condition (71%) than the lecture condition (63%). One alternative explanation for the medium effect size is that about two-thirds of the students reported listening to the podcast two or more times. In contrast, the other group of students received the lecture once and could not replay it during the intervening week. Thus, the outcome reflects the effects of practice rather than medium of presentation.

Daniel and Woody (2010) randomly assigned students to podcast listening or article reading conditions and measured student learning (i.e., quiz scores), student preferences, and study habits. Of the 48 participants in the study, 25 read an article and 23 listened to an audio podcast of the same article. All the students completed a 10-question test over the content of the article a couple of days later. The outcome was consistent with published articles in a literature about listening and learning. That is, students who listened to a podcast of the article ($M = 58\%$) achieved statistically significantly lower mean scores on the test than those who read the article ($M = 82\%$). The large effect size was not an artifact of practice effects. Unlike the McKinney et al. (2008) study, students in the two conditions reported comparable time on task either reading or listening to the article. Although podcasts may engage students more effectively than the printed page (i.e., the opening quote), the Daniel and Woody study showed that print material more successfully educates students than podcasts.

Daniel and Woody (2010) measured students' perceptions of their learning. At the beginning of the study, the students in the podcast condition preferred listening to the podcast, yet following the test, they believed their comprehension of the article was less than if they had read it. This outcome appears to contradict prior studies that produce favorable impressions about podcasts helping students learn; however, one procedural difference is the podcast was the only source of information rather than a supplemental resource. This study revealed that using podcasts to present primary material might not be optimal for student learning. Overall, Daniel and Woody provided evidence showing that students accept and even prefer podcasts, but not when the content on a quiz or exam is exclusive to a podcast. However, the authors did not examine the note-taking angle identified by McKinney et al. (2008).

Daniel and Woody (2010) conducted a focus group for students in the podcast condition. The focus group members noted that downloading the podcast and loading it onto a mobile device was too much trouble. Their claim that it was easier to listen to a podcast on a computer is consistent with previous reports regarding student use of technology (e.g., Hew, 2009).

Our review of the literature revealed some studies from disciplines other than psychology and not reviewed by Hew (2009). Dupagne, Millette, and Grinfeder (2009) created vodcasts for use by 261 undergraduates enrolled in seven introductory communication theory courses over several semesters. The instructor showed all 12 vodcasts in class and students participated in classroom

discussions applying communication concepts conveyed in the videos. In addition, the teacher posted the vodcasts in Blackboard giving students the option to review them again or ignore them. In this unusual study, the vodcasts served as an essential mode of instruction in the classroom and as a supplemental resource outside of class. The quasi-independent variable was whether students reviewed each vodcast a second time to prepare for an exam. Each of the three exams contained 12 questions about the vodcasts (3 questions per vodcast). Contrary to expectations, non-viewers scored significantly higher than supplemental viewers did on two of 12 podcasts; however, the effect sizes are very small and the remaining mean comparisons did not differ significantly from one another. The down side of the study was that the researchers neither assessed note taking (see McKinney et al., 2008) nor controlled the independent variable well. The upside of the article was a nice model for dependent variables regarding use of technology (e.g., portable player ownership, computer literacy, podcasting familiarity, and video podcasts attitudes), attitudes toward course content and future use of podcasts, and reasons why students did not use the podcasts. As in previous studies, 95% of the students viewed the vodcasts on computers rather than mobile devices and about 90% endorsed the podcasts as helpful for learning course content.

Romanov and Nevgi (2007) created a series of 20 vodcasts for 121 medical students enrolled in a blended course combining lectures in class, group sessions, and online learning modules. In addition to measures of learning, the researchers measured aspects of student engagement via WebCT. The two groups of students were either podcast viewers (who viewed two or more of the 20 vodcasts) or non-viewers (who viewed no more than one podcast). Although the learning module (i.e., practice) self-test scores did not vary as a function of viewing the clips, viewers ($M = 73\%$) scored significantly higher than non-viewers ($M = 61\%$) on the 43-point course exam. The differences in the levels of engagement and learning outcomes could not be explained in terms of any of several extraneous variables evaluated by the researchers. The viewers received higher course grades and were more engaged the than non-viewers. That is, they did more in terms of reading comments, starting threads, and replying on the discussion boards. Once again, about 20% of the students did not view any video podcasts.

Badowski (2009) conducted a classroom study comparing the presence and absence of supplemental podcasts on exam scores by accounting students. Students in the two groups earned comparable scores on an initial chapter exam. Subsequently, the experimental (n = 79) and control groups (n = 33)

either did or did not have access to audio podcast reviews in Blackboard prior to each of three regular exams and the final exam. On all four exams, students in the experimental condition averaged one more correct answer on the 50-question exams than the students in the control condition; however, the differences were not statistically significant. Although the author could determine if students in the experimental condition downloaded the podcasts, he neither reported those data nor obtained self-reports about viewing the podcasts. Like those in previous studies, students regarded the podcasts as helpful in learning and achieving better grades on the exams. Students also endorsed the use of podcasts in future courses. In the discussion, Badowski speculated that the use of podcasts had increased student engagement because students requested more such materials.

Articles about the relationship between podcasting and either student learning or affective outcomes can be distinguished in terms of the podcast producers. In the articles reviewed thus far, the podcast producers have been instructors. The remaining papers examine student-produced podcasts. This use occupies a distant third place in higher education behind podcasts as substitutes for lectures or as supplements to a class. Articles about student podcast projects focus more on building skills, such as critical thinking, applying principles, and developing professional values. Our search of the literature did not reveal any studies that compared student engagement and learning outcomes in courses with and without student-produced podcasts.

Armstrong, Tucker, and Massad (2009) explored how student-produced podcasts related to student learning outcomes in a course case study. In general, they aimed to extend students' understanding of the fundamentals of business. More specifically, they desired analytical and critical thinking skills, technological skills, and skills for ethics, communication, and teamwork. Teams of students in a business course interviewed an expert on a research topic, produced a vodcast on the topic, and presented the work to the class. This project required students to use technology related to recording voice (e.g., Audacity), manipulating images (e.g., PowerPoint and Photoshop), visualizing (e.g., FreeMind and Visio), making a video clip (e.g., Windows Movie Maker and iMovie), and uploading the final product to a website (e.g., iTunes or other podcast directories). Armstrong et al. collected survey data that revealed the students believed the project helped meet the eight student learning outcomes (e.g., integrating communication skills with knowledge, developing technology skills, developing self-reliance). Despite the absence of evidence, the

authors claimed their approach also satisfied the seven principles of good practice in higher education (Chickering & Gamson, 1987): (a) student-faculty contact, (b) active learning, (c) prompt feedback, (d) time on task, (e) high expectations, (f) respect for diverse learning styles, and (g) cooperation among students. Institutions and instructors who apply principles of good practice foster student engagement in college according to various reports on the website for the National Survey of Student Engagement.

McArthur (2009) described podcasts produced by students in a small groups communications course. In the first part of the assignment, students selected a topic and wrote a review of the literature. The literature review inspired questions for an interview of members of an appropriate small group. As an example, one student interviewed a group of roommates after reviewing the literature on conflict management. Subsequently, the students prepared scripts and produced four- to five-minute long podcasts in which they used content from the interview to document principles and theories of small group dynamics. In the final step, students presented the podcasts to the class and posted the work on the course website. Students provided qualitative, but no quantitative data, by answering six questions as part of their debriefing. Although McArthur did not present students' comments, he asserted that the multi-stage project requires students to develop and apply their knowledge, enhance their media literacy skills, and demonstrate communication skills through their interviews and presentations. In sum, McArthur argued that student-produced podcasts fostered student engagement and promoted disciplinary knowledge, skills, and values.

Space limitations preclude our reviewing a large literature about educational projects in which students create digital stories (see the Center for Digital Story Telling at http://www.storycenter.org/). Suffice to say that telling a digital story means that students produce a podcast through processes similar to the ones articulated by Armstrong et al. (2009) and McArthur (2009). Interested readers should peruse the University of Houston website about the educational uses of digital story telling (http://digitalstorytelling.coe.uh.edu/). This website hosts podcasts from a variety of disciplines and provides excellent instructional resources for educators and students.

Institutional Issues

Although the reader may find this topic odd for an e-book on student engagement, a discussion about institutional issues will demonstrate that stakeholders have different intentions and expectations regarding podcasts (Carvalho et al., 2009). One institutional issue concerns use of podcasts as a recruiting tool. For example, institutions may advertise a system (e.g., http://www.echo360.com/) that encourages instructors to record and post their lectures. The Purdue University website at http://www.itap.purdue.edu/tlt/Boilercast/ explains one such approach. This practice casts an institution in a favorable light because it offers a service to students. The downside is that posting lectures encourages passive listening and rote memorization by students (see Scutter, Stupans, Sawyer, & King, 2010, for a thoughtful discussion of this issue). Hence, a practice that serves the interests of the institution and students could undermine instructors' efforts to promote higher level skills such as critical thinking and application (see APA, 2007, 2008).

A second institutional concern is whether podcasts of lectures deters students from attending classes (see McGarr, 2009). Hew's review indicated that distributing podcasts of lectures did not lower rates of attendance. In addition, Copley's (2007) students said they would attend class even though lecture podcasts were available. The article by von Konsky, Ivins, and Gribble (2009) examined students who either passed or failed the course. Passing students more frequently listened to podcasts than failing students when they missed lectures (i.e., a replacement strategy) and for a second time (i.e., a supplementary strategy); however, the overall attendance did not differ for the two groups of students.

Lessons Learned

Our title posed the question whether podcasts engage and educate college students. One lesson learned is that there is little evidence regarding the relationship between podcasts and student engagement. Despite the claim on the Apple Computing in Education website (see opening quote), teachers of psychology should regard podcasting as an unproven and largely untested technology for engaging students in our discipline. Future research should measure student engagement for courses with and without use of podcasts.

A second lesson learned is that there is mixed evidence regarding the relationship between podcasts and student learning outcomes. For example, surveys consistently reveal favorable impressions by students about the positive influence of podcasts on their learning. In contrast, we found no compelling evidence that instructor-produced podcasts contributed positively to students' knowledge base in their discipline more effectively than other resources. From another point of view, instructor-produced

podcasts and student-produced podcasts may accomplish course goals for research methods, critical thinking, application, and professional values. Either kind of podcast could promote the APA (2007) liberal arts outcomes such as technological literacy, communicating effectively, sociocultural awareness, personal development, and career planning. Unfortunately, we could find no research about the relationship between podcasts and the enhancement of either high levels skills or values in psychology or any other disciplines.

Podcasting remains a simple and inexpensive technology available to instructors and students. Moreover, there is a wealth of podcasts by professionals external to courses. Teachers of psychology who consider producing their own podcasts, using podcasts by others, or assigning podcasting projects to students should focus on student learning outcomes that they desire to promote. We recommend instructors begin by reviewing the student learning outcomes pertinent to disciplinary knowledge, skills, and values (e.g., APA, 2007; 2008; Halpern, 2010). Windham (2007), a self-professed podcast junkie, provided an excellent second step for instructors and a starting point for students. As a third step, we recommend exploring numerous instructional resources ranging from articles (e.g., Guertin, 2010) to books (Salmon & Edirisingha, 2008) to websites on digital story telling. For ideas about creative podcasts by faculty, Guertin (2010) described podcasting weekly discussions of course content, review sessions for tests, alleviating pre-class anxiety, answering frequently asked questions, and creating community in online courses. She also presented clever ideas for student podcasts such as summaries of course lectures (for distribution to the class), public service announcements, real world applications, movie reviews, and literary criticism. Although some of these ideas may be foreign to psychologists, several of them could be adapted to our discipline. For example, students could review or comment on articles, books, websites, or videos. Other chapters in the e-book also suggest other creative opportunities for podcasts. For example, Handelsman (2011) discussed the first day of class and Keith (2011) discussed the last day of class. Providing a podcast prior to the first class may be an option for instructors of blended or online courses while offering an audio alternative to a letter on the last day of class may engage students in ways intended by both authors. As a fourth step, we encourage teachers of psychology to devise and systematically assess instructional use of podcasts in higher education.

We conclude on a lighter note that may be apropos. Teachers pondering podcasts should download articles and resources for ideas, turn up the volume on creativity, plug headphones into the possibilities of podcasts, listen to the harmonic sounds of engagement for both instructors and students, and seize the opportunities for the scholarship of teaching and learning on podcasts.

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Strategies for Making Psychology Self-Relevant In and Out of the Classroom

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Psychology is a discipline that naturally lends itself to applying material to one's own life. When students are able to retain information beyond the assignments, exams, and classroom walls, they have the opportunity to enrich their own life experiences. Thus, our fundamental role as educators is not to transfer facts. The real goal is to influence and improve students' lives by changing the way our students think about the world and by filling students with curiosity, skepticism, and a desire to use psychology to achieve a greater understanding of the world. We want students to evolve from surface learners who focus on mastering the facts or strategic learners who focus on getting a good grade, into deep learners who focus on changing and improving their way of thinking (Bain, 2004).

When students have the opportunity to use course material in the "real world" that opportunity will not be in the form of a multiple-choice quiz where "book definitions" provide the answer. Instead, to effectively use what they have learned, students will need to know how to apply the concept. Courses and textbooks cannot teach students every possible application of a concept or every context where a concept might be useful. However, if students become active consumers of information and routinely relate information to the self, using course knowledge in the world outside class will be much easier. It is important to note that the techniques we describe in this chapter are meant to enhance existing coverage of material. We are not advocating the sacrifice of academic rigor in an attempt to fulfill some students' desires for entertainment. Instead, we believe that the judicious use of this chapter's concepts and techniques will make psychology more self-relevant to our students.

We know from research on the self-reference effect that memory is better for things that relate to the self (Symons & Johnson, 1997). However, as educators we should not assume that all students automatically have the ability to relate course material to themselves and to their everyday experiences. Instead, educators must be mindful of cultivating student interest and structuring elements of the class to facilitate connections between course

material and students' broader experience. The purpose of this chapter is to explore how educators can accomplish this on two main levels: general teaching style and specific assignments.

The Educator's Role in Connecting with Students

First and foremost, helping students make connections between psychology and their own lives requires that the instructor make a connection with the students. To do this, it is important to avoid focusing on inherent differences between the students' and the faculty's generations. Such a comparison may suffer from an overly favorable recollection of our own prowess as students and from the fact that as future educators we were likely above average students who were more conscientious than our fellow college classmates (Lewandowski & Strohmetz, 2009).

One common perspective is that the current "millennial" or "Generation Me" student cohort is qualitatively different from previous generations of students (Howe & Strauss, 2000; Twenge, 2006). However, researchers have reported that although some generational differences may be statistically significant, an examination of the effect sizes reveals small generational differences in individualism, time spent working, egotism, the importance of social status and locus of control (Trzesniewski & Donnellan, 2009). In fact, compared to other generations, the current cohort has higher educational expectations. Others have also claimed that the real difference is a developmental one between young and old, with younger people having greater levels of narcissism (Roberts, Edmonds, & Grijalva, 2010). This suggests that current students may be different from current instructors, but may not be different from the instructors when the instructors were students (Lewandowski & Strohmetz, 2009).

Whether the differences are real or not, labeling our students as different undermines our ability to connect with them. Worse, if the instructor believes that students have fundamental deficits, it may be easier to find evidence of those deficits (Wason,

1960), and the instructor may end up acting in ways that further highlight those deficits (Lewandowski & Strohmetz, 2009). Instead, it is more beneficial to meet students where they are, rather than where we may want them to be.

General Strategies for Connecting with Students

One way educators can reach students is by staying current with pop culture. Certainly, this does not mean that you need to immerse yourself in watching MTV, or learning the lyrics to the latest pop songs. But, it is worthwhile to avoid being the curmudgeonly professor who thinks "I'm nothing like the kids today. How can I possibly relate to them?" You do not need to be the same as your audience; however, it is helpful to follow the old adage "*know* your audience."

There are a few strategies for increasing familiarity with your students' worlds without living in those worlds. One strategy is to ask students on the first day of class to share their interests related to music, television shows, websites, and movies. We also suggest moving beyond superficial interests by asking about their life aspirations. This exercise provides some potentially eye-opening information. We have found that although students may list interests and favorite things that are completely unfamiliar to us, they also list familiar life aspirations like "be happy," "get a good job," "raise a family," and "make a difference." Maybe we are not that different after all! Rather than being intimidated by the students' interests being different from your own, one can use this information to brush up on some of the current trends.

For example, the internet is a great place for sampling songs (www.apple.com/itunes/charts/ provides a list of top songs with free previews), movies (http://www.imdb.com/nowplaying/#topten provides a listing of top movies with summaries), and television shows (www.tv.com/shows/top-shows/today.html provides a list of top shows with links to clips). Another useful resource is "The Mindset List" published by Beloit College (www.beloit.edu/mindset/) to help summarize the experiences (or lack of experiences) of current First Year college students. In the same way that students use *CliffsNotes* to get the general idea of a book, you can use these websites do the same for popular culture. Educators will inevitably find that themes from popular culture can apply to their own lives. By using these examples in class, the instructor will serve as a valuable model for making abstract concepts relevant to everyday life. Additionally,

there are some useful resources for maximizing the pedagogical value of film (Green, 2004) and other popular media (Hollander, 2004) for teaching psychology.

The best source for learning about students' interests is the students themselves. To maximize this resource it is important for educators to learn students' names, ask students to provide examples of how concepts apply to their own interests, and most of all to be passionate about what you teach. As Charles Brewer (2002) said, "If you are not passionate about what you are doing, your students will not be passionate about what you want them to do…The saddest people I know are teachers who have lost their passion for teaching, but they continue to teach. When teaching is no longer fun, give it up. Your colleagues and students will rejoice" (pp. 504-505). By providing an enthusiastic environment, faculty will help students to feel safe to take risks in the classroom and will feel comfortable giving examples that relate material to their own lives.

Online Technologies and Self-relevance in the Classroom

Self-relevance of course material can be heightened by making innovative use of technology outside the classroom, and then integrating these experiences into the classroom setting. We suggest that technology-based class activities encourage students to venture outside of the textbook and even beyond your teaching examples, allowing them to incorporate their own interests and hobbies into almost any topic.

Using Discussion Boards to Increase Self-Relevancy

One of the most user-friendly, approachable ways to incorporate technology into your classroom activities is to assign discussion board activities. Discussion boards are online sites that allow students to post a message for their classmates to see. Classmates can then post replies to the original post. These comments are "threaded," or organized so that all comments to an original post are grouped together, making it easier to read the posts as a conversation. Using a discussion board allows students to continue with a conversation that germinated in class, or to start a conversation not covered during class time. In either case, students can steer the conversation in a direction of interest to them and discuss their own opinions on course-related topics. Students can also provide links to supporting information found in other places on the web, and even attach supplementary materials such as PowerPoint presentations or image files. Discussion boards are known to be effective.

Students participating in online discussions reported a higher likelihood of completing reading assignments before class, reading them more carefully, and understanding lectures better (Lineweaver, 2010). When students had voluntary access to supplemental course discussion boards and chat rooms, those who selected to use them earned more points in the class (Elicker, O'Malley, & Williams, 2008).

A sample group assignment using discussion boards. There are many approaches to using a discussion board within a course, and many strategies are dictated by the particular goal of the assignment in question. Here we present a successful group assignment we have found useful to increase self-relevance within a course. This format can be applied in many ways to a multitude of psychology courses.

In this assignment, students supplement the materials in their textbook by hosting an online discussion relating the course material to their own lives. Specifically, the instructor assigns students to groups and assigns each group a particular segment of the textbook material. Students then decide how they will divide their material among themselves. Each student posts a summary of his or her textbook section, and poses a compelling question that will open up the topic for an applied discussion in any direction he or she finds interesting. The group members make these posts to the discussion board in the beginning of the week in which their material will be covered in class. Assigning the material in this group fashion maximizes the benefits and reduces the costs of group work, in that each student's individual post is graded solely on his or her own contribution, yet the student has access to a potential support network for questions on how best to complete the assignment. In response to these posts, the student's classmates must each post a response to the discussion board at least once a week, insuring that a discussion occurs throughout the semester.

Students have reported that this group discussion board assignment is successful in two important ways. First, students say that the process of summarizing a section of material and then devising a question that applies to their own lives deepens their understanding of this particular section of the course. Second, students report that responding to other students' posts helps them make connections to the real world in ways they had not considered, and having to outline their opinion on a particular (and often controversial) topic requires engagement with the class material. We have noticed that this assignment is particularly successful in providing students who often are silent in class with a forum to express themselves in a relatively safe environment.

Students have reported reduced rates of public speaking anxiety when using the discussion board format, because it allows them to compose their responses at their own rate.

Techniques to increase effectiveness of discussion board assignments. To facilitate discussion board assignments, educators should provide a formal handout outlining guidelines for successful posts. This should include warnings about sharing too much personal information and respecting others' points of view. Additionally, we have found it particularly helpful to provide examples of posts that exhibit academic rigor (e.g., integrating key terms appropriately, referencing empirical support for an opinion) versus those that do not (e.g., simply reflecting back someone else's previously posted opinion). Further, the instructor can reinforce the importance of high quality posts by providing a grading rubric clearly outlining the point values given for higher quality versus lower quality posts. Of course this helps your grading process, but even more importantly, we have found that the depth and sophistication of students' posts dramatically increased after adding these guidelines to the course.

Second, we suggest integrating the discussion board assignment into your class meetings. For example, choosing a particularly controversial thread of discussion and continuing it during the first five minutes of class, or encouraging students to connect a discussion they are currently having online with a discussion from a previous chapter, helps students see the relevance of the discussion boards, and verifies for students the importance educators are placing on these assignments. We have found that going too long without integrating the online discussions into class time leads to a decrease in accountability for providing quality posts and responses.

Using Wikis to Increase Self-Relevancy

Group wiki page projects are another type of technology-based assignment that can successfully increase the self-relevance of course material. According to www.wiktionary.com, a wiki is, "a collaborative website that can be directly edited by anyone with access to it." The most widely recognized wiki today is Wikipedia.com, which allows anyone from anywhere in the world to contribute to encyclopedia entries. Academically based wiki online software packages are now commonly available, and are geared toward facilitating collaborative projects. A group starts with a blank webpage to which text, images, and website links can be added using basic word processing techniques. Additional web pages can then be created and linked together. A "sidebar"

window allows for collaborators to see who made additions and edits to the page, and comments that only authors can see can easily be added to the bottom of the page. The process is user-friendly and supports collaboration with multiple individuals in an easy manner. In fact, as authors, we used a wiki to help us collaborate and organize the writing of this chapter.

A sample group assignment using wikis. We found that group wiki projects provide a creative and collaborative way for students to supplement their classroom learning. For instance, we successfully incorporated a group wiki project into Introduction to Psychology classes, both in traditional and hybrid (i.e., half online and half traditional) sections. The instructor created a class wiki page and assigned small groups of students to a selection of chapters from the textbook to incorporate into the wiki. Groups created as many supplementary webpages as they liked, linking them to the course wiki as they were completed. Groups could choose to focus their webpages on a particular topic found within their chapters, or provide an overview of all the content covered in their chapters. For example, the group assigned to the chapters about child development, could choose to focus on one developmental concept (e.g., providing the definition of conservation, a description of a task that tests for mastery of conservation, and links to video clips of a conservation task) or provide an overview of the many developmental theories and stages mentioned in the textbook. Students then made brief presentations of their completed wiki during the relevant class meeting.

Research on the use of wikis in a class setting indicates that students find wiki projects both enjoyable and educationally beneficial (Hulbert-Williams, 2010). We found similar results. The more students put into the project, the more relevant they found the course *and* the more their classmates benefited. However, the most rewarding aspect of the wiki project was the level of creativity students brought to the project. Some of the most successful pages provided definitions, links to cutting edge empirical articles, images, cartoons, links to professional organizations, video montages, and more. Similar to others, we found students needed a clear explanation of expected outcomes before beginning the task (Hulbert-Williams, 2010). In the first semester of integrating this assignment into the course, a handful of students did not respond well to the project, and their projects were incomplete and unsuccessful. Feedback from these students revealed that the wide open nature of the project was "paralyzing" to them, and they had a hard time focusing and making decisions on what to include.

Students needed a balance between encouraging creativity and providing structure. Additionally, they also needed sample material and grading rubrics similar to those described in the discussion board assignment. In subsequent semesters, providing samples of very different yet very successful wiki pages proved helpful. Further, the instructor instituted a grading rubric that reinforced the value of clearly organizing and presenting information, and identified the value placed on creativity and application of materials.

Using student feedback to increase effectiveness of group wiki assignments. Student feedback on the wiki project provided insight into how it aided the students in engaging with the material. First, students reported that the project allowed them to explore areas covered in the course that were most interesting to them, and to connect with local community groups and movements. Second, students reported that the class reports were important in two ways: they were able to see each other's hard work while gaining insight into why their classmates chose to explore the areas that they did *and* they believed the presentations led to friendly competition to have the most creative and comprehensive wiki page. To support the importance students placed on the presentations, the instructor increased the point value for these presentations, and created a subset of quiz questions taken from the applied information students brought to the class. Further, students were able to point out the parts of the group project in which they took ownership, so that as in the discussion board project outlined above, their grade was largely based on their unique contribution.

Assigning Technology-based Activities Does Not Guarantee Increased Self-relevance

It is clear that these technology based group activities allowed students to apply course concepts, and increase the self-relevance of the course. However, we do extend a word of caution based on our own experiences. Simply assigning students to use technology within a course does not guarantee an increase in the connection students will experience with the course material. Although many of us think of our students as being part of a particularly technologically savvy generation, many students are still hesitant to explore new applications beyond the types of technology they use on a daily basis. Even avid technology users need to see the connection between the skills they are using in their everyday lives (e.g., social networking sites such as Facebook)

and the assignment being mandated in class. And although the newest technology-based tools may pique the interest of many of the students, as noted by Arbaugh (2002), "…the primary drivers of successful course experiences are the extent to which class participants emphasize and invite interaction (pp. 203)."

Based on these observations, we make two recommendations. First, the more user-friendly the technology interface, the more engaged and interactive students can become in their assignment. Thus, we suggest that the instructor invest adequate time researching the different versions or software interfaces available *prior* to incorporating the assignment into the course. While conducting this research, consider whether most of the students in the class will have access to computers with enough memory, a strong enough internet connection, and the browser favored by each program (i.e., Firefox versus Internet Explorer). Second, we suggest that educators devote class time to getting students started on the project. We also suggest that whenever possible, this training should occur in a hands-on manner. We have found that students who are overwhelmed by the idea of learning a new technology will sometimes put off getting started on the project, wasting valuable time simply because they believe they do not know how to get started. Personal experience has shown that even 20 minutes in class getting students to explore the technology can reduce students' anxiety, and increase the level of interaction in which they engage as a result of the project

Integrating Psychology and Popular Media to Increase Self-Relevance

Another way to make psychology self-relevant is to integrate current media with psychological concepts. Textbooks often elaborate on psychological concepts by providing supporting research on the topic. Although presenting findings from existing research helps students see support for theoretical claims and the field of psychology as a science, presenting empirical findings is not a self-relevant way to present psychology. Even when textbooks use cultural media examples, they become quickly outdated. Additionally, students are often so consumed with learning new concepts and memorizing new terms that they do not have the time or motivation to apply class material to the world around them. As educators we can provide opportunities in the classroom to make psychology more self-relevant by integrating psychological concepts with current cultural media, such as news

stories, books, films, televisions shows and music. By creating assignments and activities with the goal of relating psychology to the world surrounding our students we can provide ample opportunity for students to see how psychology permeates their culture.

Psychology in the News

News headlines are pervasive in our culture. National news can be found 24 hours a day thanks to television news outlets such as CNN, Fox News, and MSNBC and their associated websites. Even neighborhood news is easily accessed through local television stations, websites, and newspapers. News stories can be one way to integrate psychology into current media, helping students discover the relevance of psychology in their everyday lives. Educators can use news stories to introduce course topics. This is especially true for introductory psychology classes, where students are often presented with a new subfield of psychology weekly. You can use a current relevant news story as a way of introducing or even concluding each subfield. Current news stories can also provide a novel way to start a class discussion. After the instructor presents the news story to the class, students can discuss the story from a psychological perspective based on what they have learned in class thus far. For example, a news story about an environmental disaster can be used to talk about cognitive processes in decision making or emotional reactions to disaster. A story on a large group of protesters could start a conversation on group behavior.

News headlines can be a fresh source of research paper assignments for students in upper-level psychology courses. Based on a current news story assigned or found by them, students could not only review the psychological research related to the story, but also compare the media portrayal of a psychological topic to published research. Because students might not keep up on current events, these activities offer two important functions. They provide students the opportunity to use psychology to become more engaged in the world around them. At the same time, they use current events to better understand and apply psychology.

This general idea can be applied to research courses in psychology as well, where the material may be unappealing to students and seem irrelevant to their lives (Sizemore & Lewandowski, 2009). Because students need practice developing and refining research ideas into a working hypothesis, you can use news stories as the inspiration. We suggest presenting several current news headlines and background information to the class. Instructors of online courses can also have students' locate and

select an online news story. Then, instructors can have small groups select one of the headlines and work through a guided activity that helps the students develop a solid working hypothesis. Students should start by dentifying a rough research idea based on the news article. Next, have students identify and give an operational definition for both an independent and dependent variable. Using these variables, have students develop a working hypothesis where they form an expectation or prediction about how one variable will impact the other. The materials for this activity are available via www.teachpsychscience.org and can be downloaded for use in class. With this activity students are practicing a much needed skill in research methodology, while applying psychology to current events.

Psychological Themes in Music

Music is another highly pervasive form of media in our culture. In fact, listening to music is the top leisure activity among college students (Roberts, Foehr, Rideout, & Brodie, 1999), making music another engaging way to integrate self-relevant media with psychology. Students can use specific song lyrics or the general theme of a song to identify and apply psychological concepts from class, helping them realize the everyday presence of psychology in their culture. This could be done as an end of semester review in an introductory psychology class or as the theme of in-class reaction papers throughout the semester. Song lyrics can also be used, as suggested with news headlines, to start class discussions, or inspire a research paper. When such techniques are utilized, students self-report a better understanding (Potkay, 1982) and higher awareness of class topics (Daehler & Miller, 2004). More importantly, the use of music to illustrate class concepts led to increased scores on measures of critical thinking and comprehension of subject matter (Napoletano, 1988).

More specifically, we have included music in a skills-based assignment. Students inevitably need to know how to acquire high quality research. After teaching students how to conduct scholarly searches, we suggest using song lyrics as part of a practice exercise. Present students with the lyrics of a currently popular song. Instruct them to translate the song lyrics into a general psychology concept and then determine appropriate search terms. In our experience explaining how to use the thesaurus in PsychINFO or PsychARTICLES is beneficial for this segment of the exercise. For example, a song about "breaking up" might be translated into the search term "relationship termination." Then have students locate one relevant research article that addresses the topic and read the paper's abstract. Assign students a short paper in which they explain how they associated the song with a topic in psychology and then how they translated that idea into psychological research terms. In addition, have them include a short summary of the article found and address how the article relates to the song lyrics. Again, this activity helps students develop a skill while making psychology more self-relevant to their everyday lives.

Our Legacy as Educators

As educators, we hope the information we disseminate will influence students beyond the final exam. However, we cannot assume this happens. One way to help our students carry their knowledge beyond the classroom is to intentionally increase the self-relevance of the information. We suggest that educators shape their teaching style to facilitate connections between course material and the broader experience of students, which starts with knowing your audience. This can be accomplished through specific assignments that are mindful of self-relevant ways to approach the teaching of psychology. We presented several ways in which technology, namely discussion boards and wikis, can be used to enhance the connection between psychological concepts and personal experience. We also made several suggestions for incorporating current media and psychology to help students connect the classroom to the surrounding world. When students are able to identify what they are learning in the context of their personal lives and in the world around them, they go beyond memorization and become deeper learners.

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Increasing Learner Engagement with Team-based Learning

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For many years, educators have discussed the potential of cooperative learning strategies for increasing student engagement at all levels of education (Johnson, Johnson, & Smith, 1998). One particular cooperative learning strategy that seems promising for increasing engagement in postsecondary settings is Team-Based Learning (TBL). TBL is a specific cooperative teaching/learning strategy in which instructors assign students into learning teams in which they stay throughout the duration of the course (see Michaelsen, Knight, and Fink (2002) or Michaelsen, Knight, and Fink (2004) for overviews of TBL). What makes TBL distinctive from other cooperative learning strategies is the emphasis on developing permanent learning teams over the course of the semester as a fundamental strategy for enhancing the learning process (Michaelsen et al., 2004). Rather than using groups or teams for particular assignments as other cooperative teaching strategies do, teams stay together throughout the term, allowing team members to develop a connection with each other and become invested in the team's success. According to the tenets of TBL, as students create a positive team dynamic they are able to stay motivated and build on each other's strengths to move their learning to deeper and deeper levels. Another distinction of TBL is the emphasis on using class time for applications of content knowledge and problem solving (Michaelsen et al., 2004). In contrast to more traditional lecture-based teaching strategies, students learn a majority of the basic content of the course through a process of individual study and individual and team-based testing. Class time is focused on discussion of more difficult content and applications of that content to real-world settings.

Larry Michaelsen, an organizational psychologist teaching at the time at the University of Oklahoma, developed the first team-based learning course as a way to deal with his rapidly growing undergraduate courses (Michaelsen et al., 2004). Desiring a way to engage classes of up to 150 students while still utilizing the benefits of small groups, Michaelsen developed the basic components of TBL. Drawing on findings in the group dynamics literature, Michaelsen recognized that teams tend to change in predictable ways over time, and that using learning teams over the course of a semester (rather than for short term projects) held promise for helping students learn to engage in high-quality discourse over course content (Sweet & Michaelsen, 2007). In addition to the motivational benefits of learning with a team, the team could also provide a setting that allowed students to work through their misunderstandings about course content and attain higher levels of learning. In a Vygotskian sense, as team members share their own understandings of course content and help each other negotiate problems, they help bring each other through the zone of proximal development (Sweet & Michaelsen, 2007).

Is there empirical evidence supporting the use of teams in the classroom? Michaelsen, Watson, and Black (1989) examined this in a study of 222 teams from multiple sections of TBL-based management courses. Michaelsen et al. (1989) reviewed the group dynamics literature and noted that there was conflicting evidence on the question of whether groups made better decisions than the most knowledgeable or highly able group member. This question was explored by examining the test performance of both individuals and teams in the TBL courses. Of the 222 teams, 215 (97%) outperformed the best member of the team, with only three (1%) scoring lower than their best member. Michaelsen et al. (1989) noted that teams appear to be capable of moving beyond the upper limit of the most knowledgeable member of the team, thus supporting the notion that team learning can help facilitate more informed and better decision-making in the context of an academic course.

Another important issue to consider is how TBL compares to other instructional strategies. Carmichael (2009) examined how students enrolled in introductory biology performed in a TBL section compared to a traditional lecture section. Students were unaware of the format of the course they were enrolling in and there were no differences in biology knowledge as measured by a pre-semester exam. Students in the TBL section performed significantly better than those in the lecture section on three of the

four exams in the course, although there was no significant difference on the final exam. However, students in the TBL section performed significantly better on the data-interpretation questions on the final exam. Students in the TBL section earned more A's and B's than students in the lecture section and reported positive attitudes about TBL on an end-of-semester survey. Clark, Nguyen, Bray, and Levine (2008) explored possible differences in levels of classroom engagement between sections of TBL and traditional lecture-based nursing courses. Students were more likely to prepare for class and participate actively in the TBL course. For interested readers, a number of studies exploring the implementation and outcomes of TBL are available, including Dana (2007), Haberyan (2007), Nicoll-Senft (2009), and Vasan, DeFouw, and Comptom (2009).

In addition to the benefits of cooperative learning, TBL also provides a strategy for drawing on the cognitive benefits of testing (Roediger & Karpicke, 2006a; Zimbardo, Butler, & Wolfe, 2003). In TBL, students typically take a variety of individual and team tests throughout the course, with feedback often provided immediately during the tests through the use of a scratch-off answer sheet. Roediger and Karpicke (2006b) noted the powerful effects of testing on the retention of academic material, and reviewed evidence that testing was more effective for retention than additional study. They also stated that in addition to being a way of *assessing* learning, testing is in itself a powerful *learning strategy*. They recommended that educators find ways to use testing to help students more effectively retain knowledge gained during academic coursework. TBL effectively integrates testing through the use of multiple individual and team tests along with immediate feedback and team discussion of misconceptions. Although more research is needed to fully explore the potential benefit of TBL for psychology education, the literature in other postsecondary disciplines provides support for the potential of TBL for increasing engagement in the classroom.

Components of TBL

Identifying Learning Objectives

The guiding instructional design principle in TBL is the identification of appropriate learning objectives, with a particular focus on what you would like students to be able to do with the knowledge they've gained in the course. Virtually all courses have content-level learning objectives that identify the foundational knowledge in the particular domain covered by the course. In addition to content-level objectives, TBL provides a structure for focusing on application-oriented objectives, which focus on learning how to use content to better understand complex problems and how the knowledge can be applied to various real-world problems.

Learning Units

After indentifying the instructional objectives, the instructor breaks down the content into 4-7 learning units over the course of the semester. Each learning unit contains a list of learning objectives, readings, learning activities, and opportunities for feedback. In most TBL courses, each learning unit consists of a particular sequence of learning activities, beginning with the Readiness Assurance Process.

Sequence of Learning Activities

Readiness Assurance Process

One of the distinctive learning activities incorporated into TBL is the readiness assurance process, which is a process directed at motivating students to read and prepare for the learning that will occur in the classroom. On the first day of each unit, students take an individual readiness assurance test (iRAT), which is a multiple-choice quiz covering the unit's assigned reading materials. The goal of the iRAT is to encourage individual study and preparation. Immediately after taking the iRAT, students take the same test together with their team (a tRAT). Teams record their answers on a special scratch-off answer sheet that allows teams to receive immediate feedback if they have the correct answer (the answer sheets are called the Individual Feedback Assessment Technique (IF-AT) and they can be purchased from www.epsteineducation.com). Using this technique allows instructors to award partial credit for answers; if their first choice isn't correct, the team needs to discuss what the next best answer would be, thus encouraging extended discussion of the question. From a learning perspective, the IF-AT process is helpful by providing immediate feedback to teams regarding whether they answered the question correctly. The team testing process has enormous potential for encouraging teams to deeply process the content of each test question; the team score depends on it. It typically leads to a highly invested discussion of the course content and allows students to frequently identify misunderstandings through the team discussion.

Clarification of Concepts

After the iRAT and tRATs, instructors typically conduct a mini-lecture during the next class session to clear up any misunderstandings and clarify more difficult concepts. The instructor is able to focus valuable class time on the more difficult aspects of

the content; the individual and team testing process helps students learn much of the basic content on their own. The testing/mini-lecture format helps clarify how students should use their out of class time and also what instructors should focus on. The question of "how can I cover all this content in a limited number of class sessions?" becomes much easier to manage. Class time is focused on those concepts that students and teams have difficulty mastering. With the assurance that the students have an understanding of the content assigned in the readings, the class is now ready to move on to the application phase of TBL.

One of the questions that often comes up when faculty consider moving to a TBL format (and other learner-centered teaching strategies) is "How can I cover the content of the course if I don't spend much time lecturing?" In fact, many instructors have reported that they have actually been able to cover *more* content because of the emphasis on individual study and accountability built into the Readiness Assurance Process (Knight, 2004). In general, students are motivated to study course materials on their own, leaving time in class for the instructor to focus on the more difficult aspects of the content and new research findings. Textbooks become important tools in the content learning process, and the Readiness Assurance Process provides immediate feedback to students regarding whether they have understood the concepts. If students have been able to learn the concepts on their own, class time can be devoted to go further and deeper into the content of the course.

Application Activities

The Readiness Assurance Process and Clarification of Concepts mini-lectures help ensure that students understand the basic content of the unit, and it helps do this in only a few class sessions, thus freeing up classroom time for more advanced discussions of the concepts and practice in applying concepts to real-world problems. The types of application activities that are appropriate for use in TBL are virtually unlimited. Any activity that promotes the application of course content to domain-related problems can be implemented, although proponents of TBL have made some recommendations based on their experiences with TBL over the years (Michaelsen et al., 2004). Some "typical" group projects – group research projects, class presentations - often bring up bad memories for students because of past experiences working in groups. In some group learning experiences, the temptation for social loafing is such that some students end up doing a significant amount of work while other group members take a pass. Proponents

of TBL recommend that application activities focus on tasks that need to be completed in class and that have a particular structure (Michaelsen et al., 2004). Instructors can certainly make modifications to fit the particular goals and needs of a course, but Michaelsen et al. (2004) suggested the following structure for application activities.

First, the application activities should address a *significant problem*. How can the content be used to solve practical or scientific problems? How can the knowledge be connected to real-world experiences? How can students transfer the content knowledge gained to new settings? These are the types of questions to ask when coming up with a good application activity. In addition, the problem should be challenging enough so that teams truly have to work together to come up with a workable solution or rationale.

Second, all teams should work on the *same problem*. With all of the teams working on the same problem, there are multiple opportunities for team-instructor and team-to-team discussion after the problem solving is completed.

Third, teams should be required to make *specific choices*. Similar to a well-worded multiple choice question where students have to make fine distinctions between answers, application activities should push teams to think clearly about their rationale for the ultimate choice they make. The rationale for a particular choice often becomes material for group discussion when debriefing students concerning the problem.

Finally, all of the teams should report their answers *simultaneously*. This technique helps to highlight possible differences in team reasoning or understanding of how the basic content relates to the particular problem. After teams have completed their work on the problem, class time is used to engage in team-to-team and team-to-instructor discussion of the problem. Because teams report their answers simultaneously, any discrepancies in answers are immediately identified. When discrepancies occur, the instructor encourages teams to discuss why they ended up selecting a particular answer. The instructor is able to engage with teams about their reasoning and identify any misunderstandings of how the content relates to the problem. This process holds great potential for encouraging discussion about course content and how it applies to real world settings. It also provides an opportunity for identifying continued misunderstanding and providing immediate feedback.

Grading

Instructors can implement a variety of grading models in TBL, but typically grading involves both

an individual component and a team component. Assigning a portion of the grade to individual performance helps alleviate student concerns about "social loafing"; many students may have had bad experiences with previous group work. Assigning a portion of the grade to team performance provides motivation for contributing to the team. In addition to individual and team performance, Michaelsen et al. (2004) recommended including a "team maintenance" score in the grading formula. Team maintenance refers to the process by which team members rate the performance of all other team members. Team members know that their performance over the course of the semester will be rated by their fellow team members, thus providing motivation for contributing to the group's performance. In some TBL courses, instructors decide the weight of each of the components (individual performance, team performance, team maintenance), while in other courses the class as a whole decides on the weighting. Michaelsen et al. (2004) described a "grade-weight setting exercise" in which teams negotiate with each other to determine how the grades will be weighted in the course. Instructors can use this exercise to help promote team cohesion within the first few class sessions.

How Does TBL Promote Learner Engagement in Psychology?

I have recently implemented Team-Based Learning in the majority of my undergraduate courses and based on my initial experiences I think that TBL has enormous potential for stimulating student engagement. Implementing TBL in my courses has enhanced three aspects of engagement, including a) engagement with content, b) engagement with other learners, and c) engagement with the instructor.

Engagement with Content

The emphasis on individual study and the readiness assurance process encourages students to engage with the content of the course. Mastering the content is essential, as classroom activities and problem solving are based on the content. The immediate feedback that is a part of the readiness assurance process also stimulates engagement with content. Clear understandings are reinforced, and misunderstandings are quickly resolved through either the discussions during the team testing process or the clarification of concepts provided by the instructor.

One of the primary ways that TBL may help encourage engagement with content is through greater compliance with reading assignments. Many

college instructors are frustrated by students who attend class but fail to complete the assigned readings until right before test time. In fact, problems with reading compliance are common in post-secondary courses (Burchfield & Sappington, 2000). Sappington, Kinsey, and Munsayec (2002) noted that many students failed to complete their reading assignments and that this pattern was present from the beginning of the course, rather than something that emerged as students became less motivated over the course of the semester. They recommended that faculty consider using surprise quizzes to motivate students to complete reading assignments.

The individual and team-testing process encourages students to read their assignments carefully *before* they are exposed to concepts during class time. The Readiness Assurance Process ensures that students have put in the individual study necessary to move on to more complicated aspects of the content as well as applications of the content. First exposure to concepts occurs through individual study and team discussion, rather than through instructor lectures. Motivation to complete the reading assignments is likely enhanced by the team-based testing process; students are not only accountable to the instructor, but also to their fellow team-members. If students come to class prepared, they are much more likely to move to more advanced levels of understanding.

Engagement with Other Learners

One of the most powerful reinforcers I experienced during my first term of using TBL occurred during one of the Team Readiness Assurance Tests. While circulating the room observing the teams, I heard an eruption of applause in one corner of the room. Team members were literally giving each other high fives after correctly answering a question. And this wasn't an isolated incident; other teams were engaged in intense discussions about various questions and the possible answers. Many students were passionately trying to persuade their teammates about the legitimacy of their answers.

Sweet and Pelton-Sweet (2008) discussed how the structure of TBL creates a social dynamic in which team members become emotionally invested in the team's success. Sweet and Pelton-Sweet stated that "members of a group consider themselves mostly accountable to an external authority, while members of a team hold themselves and each other accountable" (p. 29). The opportunity to relate to others while pursuing learning goals, and the accountability that is built into the components of the course, help to move students on to deeper levels of engagement. Sweet and Pelton-Sweet expressed this

synergy between the social and the academic experience in TBL:

> If the need to belong can be considered a motivational fuel, then accountability is the engine that transforms that fuel into instructional mileage. Of course, grades are the instrumental mechanisms that ensure accountability in TBL, but those who have never been in a classroom with students getting immediate feedback during a team readiness assessment test (tRAT) have not seen the expressive mechanisms with which students position themselves and each other moment to moment in terms of accountability for their understanding of course content. This process is important because it reveals the extent to which the social experience of team membership can motivate students into deeper engagement with course material (p. 30).

The various activities of TBL seem to be especially effective in providing opportunities for students to engage with other learners. The team testing process is a major contributor to this engagement. With a portion of the grade assigned to team performance, it is vital that team members become engaged with each other in order to assure a good grade on the team tests. With the development of a level of trust and team commitment over the course of the term, team members become more comfortable in helping and challenging each other when completing team tests and team activities.

The team focus of TBL may also help students meet basic human needs, which may then promote more engagement in the course. Ryan and Deci (2000) highlighted the importance of three innate psychological needs – competence, autonomy, and relatedness – for motivation, and TBL seems especially well-suited to address the need for relatedness. As students develop relationships with team members and pursue the learning goals of the course together, these positive relationships help them stay motivated and engaged in the process. The need to worry about how one is viewed by others decreases in the "safe space" of the team.

Engagement with Instructor

The TBL format provides a number of opportunities for promoting engagement with the instructor. In my own experience with TBL, the increased frequency of quality discussions with students during class time has been one of the highlights of the transition from primarily lecture-focused courses. The Readiness Assurance Process seems to provide students an opportunity to engage with the instructor about difficult aspects of the content. Questions about difficult content seem easier to raise when they come from a team rather than from an individual sitting in a lecture hall. The quality and difficulty of the questions is typically high, as teams are able to resolve many of the minor questions through the team-testing process.

The application exercises also provide an excellent opportunity for instructor-student engagement. Of all the learning experiences in TBL, the most class time is dedicated to application exercises, which enables the instructor to spend class time engaging with teams as they work through the applications. Sweet and Pelton-Sweet (2008) referred to the "unionized" passion that often develops in teams as they engage with the content of the course and the instructor. The energy that students invest in the Readiness Assurance Process and the application activities can motivate students to seek more in-depth feedback from the instructor about their own understandings of the content and how the content ultimately applies in the real world. This new dynamic has the potential for truly inspiring high-quality instructor-student discussions.

Potential of TBL in Psychology

Instructors have implemented TBL in a variety of disciplines over the years, although it has grown most popular in the health sciences (Michaelsen, Parmelee, McMahon, & Levine, 2007). The emphasis in TBL on both content mastery and learning how to function as a member of a learning team make it a great candidate for promoting engaged learning in the discipline of psychology. The team-testing and application exercises provide many opportunities for participating in course-relevant discourse that promotes individual learning.

TBL provides a teaching strategy that allows instructors to pursue many of the learning goals identified as important for the psychology major by the American Psychological Association Guidelines for the Undergraduate Psychology Major (American Psychological Association, 2007). In particular, TBL seems especially suited for pursuing the following goals: Critical Thinking Skills in Psychology, Application of Psychology, Communication Skills, and Personal Skills. The focus on application inherent in TBL lends itself well to promoting critical thinking and the ability to apply knowledge of psychology. As instructors develop application activities, these can be focused on developing those skills most relevant to critical thinking within the knowledge domain that is being studied. TBL also helps promote the development of oral communication skills through the extensive focus on student-generated discussion during the Readiness Assurance Process and the application activities. TBL also helps promote the development of personal skills. Students learn over the course of the term how

to work effectively as a member of a learning team, and they receive feedback from their peers on how well they have contributed to the team and interacted as a team member.

Although proponents of TBL assert that the teaching strategy can be adapted to fit almost any course in any discipline, the team-based emphasis seems especially relevant to courses with a human relations component, such as human development, interpersonal relations, social psychology, and group dynamics. In addition, courses that focus on the ability to transfer knowledge to new situations, such as research methods and statistics, also seem well-suited for TBL. For example, in research methods courses applications can be developed in which teams identify flaws in various research designs and identify appropriate remedies. Other applications can focus on creating appropriate research designs for various research questions. In abnormal psychology courses, applications could focus on case studies in which teams identify relevant symptoms and work through various decisions while drawing on knowledge of the *DSM-IV-TR*.

How Do I get Started With TBL?

For those instructors who would like to implement TBL into their courses, there are a number of helpful resources. The Team-based Learning website (http://tblc.camp9.org/) is an excellent place to start. The site includes step-by-step instructions for setting up a TBL course and a list of publications and books on TBL. Michaelsen et al. (2004) provided a comprehensive introduction to the teaching strategy, with a number of chapters written by instructors who have implemented TBL into their courses. Simon and Madsen (2007) provided a general introduction to TBL and an example of how TBL might be applied in an introductory psychology course. Haberyan (2007) described the use of TBL in an industrial/organizational psychology course. Thompson et al. (2007) described how TBL has been implemented at ten medical schools in the United States. Each of these resources provides ideas for how TBL might be implemented in various courses. However, the focus on application of knowledge in TBL provides incredible possibilities for creative, engaging, courses that lead to not only deep knowledge of content but also the ability to transfer this knowledge to the real world.

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Embedding Guided Discussions in Class Activities and Assignments

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Student participation in class discussions can be both invigorating and daunting. Discussions can provide fertile ground for students to challenge their understanding of difficult concepts, to explore complex ideas in relation to their own experience, and to build a collaborative learning community. A key challenge is structuring class discussions in an optimal way—the instructor can manage the activity and student learning is maximized. This chapter includes guided discussions that are embedded within broader course assignments and in-class activities.

Although the guided discussions differ in content, they share fundamental features. First, the discussions are based on structured assignments in which the tasks that students complete prior to discussion and the role that the instructor will play (e.g. lecturer, facilitator) are clear (Kramer & Korn, 1999). Second, the assignments include a mix of individual, small-group, and whole class work so that all students have opportunities to participate at a comfortable level. Further, the assignments are designed to balance the contributions of the students and instructor, which helps to ensure that neither dominates the discussion or allows the discussion to devolve into counter-productive arguments or non-relevant topics (Brookfield & Preskill, 1999). Finally, the assignments promote students' critical thinking skills. The instructor poses a variety of questions to students (e.g. Exploratory, Diagnostic, Priority) so that students effectively challenge course material (Brookfield & Preskill, 1999).

Institutional Setting and Course Overview

The foundation of the psychology program at St. Edward's University is the development of critical thinking skills in our students. As a small university, it has a low faculty-to-student ratio that allows faculty members to work closely with students and to effectively facilitate learning. Our university prizes innovative pedagogical techniques—particularly those that promote active learning. We, as instructors, provide guidance in the classroom; but students are expected to play an active role in their educational experiences in order to achieve a thorough understanding of the material being presented. In this chapter, we review activities that feature guided discussion for two courses, Adolescent Psychology and Theories of Personality, which are typically found in undergraduate psychology degree programs. The class size for these courses ranges from 20 to 35 students. These activities provide opportunities for students to conduct original research, to connect classic and contemporary psychology theories, to utilize current technology (i.e. blogs and wikis), and to debate ideas with peers. Unlike the traditional lecture approach, activities that incorporate active learning promote students' creativity and shift the responsibility for mastering course material to the student.

Guided Discussions in Adolescent Psychology: Blog and Wiki Projects

We first share activities for an Adolescent Psychology course. In this course, guided discussion is embedded within individual and group assignments. Because many of the topics in adolescent psychology are controversial and personal in nature (e.g. sex, drug and alcohol use, family dynamics), the instructor designed an assignment to allow students a safe space in which to explore their understanding, experiences, and attitudes toward these topics. Using an online blog, students complete a series of four responses to assigned questions. The blogs are viewed only by the instructor. Examples of blog question prompts are: "Do boys worry about an ideal body image as much as girls do?" and "Should adolescents who commit serious offenses be tried and convicted as adults?" Students provide a brief synopsis of the key issues that underlie the question, based on assigned readings, class discussions, and their individual attitudes. The instructor also encourages students to synthesize the information presented in the readings and class discussions and apply them, as well as any personal experiences to the question/issue at hand. This assignment allows students to delve into each

question, without having to disclose highly personal information in the class meeting. Through this assignment, students build on their understanding of controversial issues in adolescence through personally relevant examples. In addition, students gain familiarity with a current technology (i.e., blogging) and an individual connection with the course instructor.

Integrating new technologies into instruction is a hallmark of the Adolescent Psychology course. In lieu of a typical research project which students can find tedious and boring at times, students work in small groups to build an informative wiki site on a psychosocial problem within adolescence, such as parent-adolescent conflict or risk-taking behaviors. Each member of the group is responsible for a section of the wiki such that the site provides an overall, student-friendly compendium of research and resources on the topic. A specific template for the sections of the wiki is provided: Title, Introduction, Causes, What Can Be Done, Prognosis, and Prevention. The project requires students to complete individual work on the topic as well as to organize the content, style, and information for the wiki as a group. At the conclusion of the semester, wikis are presented to the class (both visually and orally) and students presenting their research wikis are encouraged to engage other students in their presentation by asking questions, sharing stories, and offering examples. For the presentation, each member of the group discusses his/her section of the wiki site. In addition, classmates and instructors critique the wikis via online comments. There are many benefits to this assignment. Students learn to use and manage a new technology—the wiki site generator in an online course management system— and to collect and disseminate psychological research within an organized, multimedia format.

Guided Discussion in Theories of Personality: Connecting Theory and Research

At the outset of the Theories of Personality course, we focus on the scientific method, criteria for evaluating theories, and lay theories about the nature of personality. The first theory we explore is Sigmund Freud's psychoanalytic theory of personality. Our exploration of Freud's work occurs across three class periods, in conjunction with assigned readings from one chapter in our course text. For the first class period, students watch a video on Freud's life. The video covers biographical information, the development of psychoanalytic theory, key events and figures in Freud's career, and

the influence of psychoanalysis on subsequent theorists. Students take notes individually in order to prepare for a game during the next class.

At the next class meeting, we create small student teams (5-6 students) through random assignment. Students may use their notes, but they may not use their textbooks. The Jeopardy-style game includes two rounds; questions are based primarily on the content of the video. Teams discuss their assigned question and must decide upon a single team answer, within a 30-second time limit. During the game, teams are not allowed to "steal" points from other teams or to assist other teams. Points are based solely on whether a team answers a question correctly. All teams have the same number of opportunities to earn points. After the second round, the team with the most points wins a "prize"—the team can determine the question category for a bonus question on an upcoming exam.

Although the game does involve team-based discussion of the video material, the learning is at a low cognitive level—Knowledge and Comprehension in Bloom's taxonomy (The University of Texas at Austin Instructional Assessment Resources, 2010). Deep learning occurs during the third class meeting. In this meeting, the instructor asks students questions about the scientific method, the merit of theory, and personality using Freud's theory as a model. For example, the instructor asks whether Freud's psychoanalytic theory is a "good" theory for understanding personality. Students use criteria covered in the assigned reading, such as whether the theory has gaps in logic and is based on empirical evidence. Students critique the lack of empirical bases for many of Freud's ideas, but also the utility of levels of consciousness in modern understanding of memory, motivation, and behavior. The benefits of this three-part activity are great: Students gain a firm foundation for understanding Freud's theory, engage their peers in small teams, and as an overall class apply their knowledge of research methods and inquiry in psychology, and broaden their perspectives about personality psychology as a discipline.

In Theories of Personality, the instructor encourages students to compare and contrast theories and research evidence, as individuals and in small groups. Our coverage of contemporary psychoanalytic theories is broad (e.g. Erikson's psychosocial theory of development, object relations theory, attachment theory, Karen Horney's work on gender and sex roles), which requires that we review many theories in only a few class periods. Our course text condenses this topic into one chapter. Students read the chapter prior to activities during two class meetings. During the first class meeting students are organized into small teams and are

assigned a key question to address. Each multi-part question includes summary and critique components. For example, a team is asked to summarize the first stage of Erikson's psychosocial theory, to contrast the stage with Freud's oral stage of psychoanalysis, to develop examples that depict what occurs when the developmental crisis has been resolved or not resolved, and whether they (as individuals and as a team) support the validity of the stage.

During the second class meeting, discussion of topics is woven throughout the lecture. With each topic, teams are called upon to share their question and their response. Their criticisms of the theory, research evidence, and examples that depict the theory are ripe for class discussion. This level of discussion challenges students to apply their understanding of theory and research to personal, relevant examples. More important, students gain the foundation for higher level reasoning about personality. For instance, the instructor asks students whether psychoanalytic models of personality are deterministic or allow for a great degree of free will. If deterministic, who or what are the greatest influences on personality—genes or early childhood experiences with caregivers? If personality can change, when, how, and under what conditions does it occur? These fundamental questions about personality are underlying themes throughout the course.

Conclusion

Classroom discussions offer students opportunities to actively engage course material, to challenge their attitudes and assumptions, and to share their experiences and insights with their peers. By structuring assignments carefully and requiring students to prepare for discussions, instructors can effectively shift roles—from that of a lecturer to a facilitator—and impel students to collaborate in the learning process. In addition, these assignments allow students to gain new technology skills, to enhance their oral and written communication, and to engage in cooperative learning. Although the examples shared in this chapter were developed for two lower-division psychology courses, we encourage our colleagues to modify them for use in large classes and upper-division courses.

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Jigsaw Classroom

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An ever-present challenge in college teaching is student diversity - not just in race and ethnicity but also with respect to motivation and ability to master course material. Another challenge is the relatively limited opportunity instructors have to make a direct impact on student learning, typically less than three hours per week for a given course.

One strategy that addresses both challenges is promotion of active engagement of students in learning the course material. Some instructors are charismatic, and for others the course subject matter (sex or drugs, for example) is enough to attract and hold student interest. Fortunately, those of us who are charisma-challenged, or teach subjects that lack intrinsic appeal, have another option at our disposal. We can promote engagement by changing the structure and process of what happens during class time, i.e., by reorganizing the classroom as a setting for learning.

This chapter presents a technique for this purpose known as the jigsaw classroom (Aronson & Patnoe, 1997). After describing the origins of this approach, we explain its implementation and provide brief examples of its use in college level psychology courses. In addition, we discuss a conceptual foundation that supports its effectiveness and offer some cautions for those interested in using the jigsaw method.

Background and Description of the Jigsaw Classroom

Elliot Aronson devised the jigsaw classroom in 1971 to address ethnic tensions in the recently desegregated Austin, Texas public schools (Aronson, 2008; Aronson & Patnoe, 1997). Aronson and his students hypothesized that one contributor to prejudice among students is the traditional teacher-focused and competitive learning environment. In the typical classroom, students learn that the teacher is the only expert and that few, if any, academic benefits are gained from helping, respecting, or encouraging others. To change these conditions, Aronson created the jigsaw classroom as a situation of mutual interdependence, where cooperation is required to earn an individual goal: good grades. Much like a puzzle piece, each student has a unique

role, that when combined with the roles of other students fully completes an assignment. Students learn that success results only if they listen carefully to each other, ask good questions, provide encouragement, and demonstrate general respect for each other. Although Aronson designed the jigsaw classroom to improve intergroup relations, the technique delivered academic benefits as well. Empirical results from the Austin schools showed that jigsaw children liked their peers and liked school more than did children in traditional classrooms, and that jigsaw children had fewer absences, higher self-esteem and empathy, and better academic performance (Aronson & Patnoe, 1997).

Implementing the Jigsaw Technique

The jigsaw technique requires a carefully planned lesson, clearly divided into 3-7 interdependent sub-tasks, effective instructor facilitation, and, because the students may need time to adjust to the technique, instructor patience and commitment. However, once planned it is also a relatively simple technique to administer, and with minor adjustments can be successfully implemented in a range of classes. More thorough descriptions and examples of the technique are available elsewhere (Aronson, 2008; Aronson & Patnoe, 1997). However, almost all the existing literature concerns pre-college settings, so the suggestion and examples we provide here focus on successfully applying the technique in college courses.

Design of the Lesson

Aronson (n.d.) found that "jigsaw works best with material that is *not* conceptually novel (requiring students to use skills they have not yet learned)" (p. 25). In other words, the technique is more likely to succeed if used to practice, review, and apply skills that have been already covered to some degree. The tasks must be carefully divided into coherent parts that, when examined on their own, include enough information that each is understandable without the other parts. However, much like a jigsaw puzzle, each piece must also be necessary, such that when combined they create a unified "whole" (e.g., a completed ANOVA summary table, a full APA manuscript). In other words, the task must be

designed such that individual students succeed only if they work together.

Assignment to Groups

We recommend having five or six students per jigsaw group, although as few as three may be appropriate depending on the size of the class and how the assignment is divided. The instructor should have group assignments planned in advance, although attendance uncertainties may require some flexibility. In larger classrooms random assignment to groups may be the most efficient approach, but in smaller classrooms strategic assignment based on the relevant individual differences (e.g., gender, ethnicity, ability) may be necessary to achieve diversity. As described previously, diversity is an essential component of the technique when seeking academic and social benefits.

Procedure

Students need time to understand the purpose and parts of the entire assignment, and then to become familiar with their specific pieces. There is no need for them to memorize, reach full understanding, or have all their questions answered at this point. Rather, temporary "expert groups" are formed, where one student from each jigsaw group joins the students from other groups who were assigned the same piece. The instructor should ensure that the expert groups are not too large (more than six experts may impair the cooperative nature of the work). In larger classes, redundant expert groups may be a solution (e.g., have two or more expert groups composed of students assigned to compute the interaction sums of squares for their ANOVA jigsaw group). Give students in these expert groups time to discuss the main points of their segment and to rehearse the presentation they will each make to their respective jigsaw groups. The instructor should closely monitor the discussions and group dynamics of these expert groups, but only intervene minimally and when necessary to correct misunderstandings and to address problematic social dynamics. In large classrooms with many expert/jigsaw groups, teaching assistants who understand the jigsaw technique will be needed to monitor the groups.

Returning to the jigsaw group, each student presents her or his "expert-validated" segment to the group. Group members may question and clarify the details until every student understands each segment. To ensure that students take the jigsaw work seriously, the instructor can quiz them on the entire lesson. For assignments that concern the creation of a final product (e.g., an APA-style report), the instructor should assess the performance of both individual students (on their respective pieces) and groups (the final product).

Illustrative Examples

As we noted, most of the empirical literature on the jigsaw technique focuses on pre-college classrooms, with relatively little published concerning college students. Here we briefly describe two exceptions, which also illustrate how the technique can be particularly effective in courses that may elicit student apathy and/or resistance. In the first example, Perkins and Saris (2001) applied the jigsaw method in undergraduate statistics classes to deal with disparities in student ability and to increase engagement. On several occasions during the term, Perkins and Saris divided a statistics worksheet (on ANOVA, chi-square, and so on) into complementary, but independent, steps (e.g., sample size, sum of the raw scores, sum of the squared raw scores, and sum of squares). Students with the same step completed it together in expert groups and then joined other classmates to finish the entire worksheet in jigsaw groups. At the end of the term these students endorsed several benefits of the jigsaw procedure, including opportunities to give and receive help, understanding the statistical procedure, and using class time efficiently. They also performed better on exams and reported more positive evaluations of the instructor than did students in other sections of the course taught by the same instructor.

In the second example, Carroll (1986) applied features of the jigsaw technique to the creation of an APA-style research project in a laboratory course. Over a period of approximately 10 weeks, each member of a small (maximum four) jigsaw group completed a key experimental task (e.g., pilot study, instructions, running subjects, statistical analysis) and later wrote one section of the research report (e.g., introduction, method, results, discussion). Compared with students conducting individual projects, the jigsaw students had more positive attitudes toward the course, were more likely to complete the course successfully, attempted more challenging research projects, and participated more often in student research conferences.

Conceptual Basis for Jigsaw Effects

Despite limited empirical support for using jigsaw techniques in college classrooms, there are compelling conceptual reasons to believe that modifying features of the classroom setting can increase student engagement. Consider, for example, Barker's Behavior Setting Theory (BST; Schoggen, 1989). BST proposes that regularly occurring human activities, such as college classes, have important regularities, including designated participants, boundaries of time and place, and an organized program (i.e., a sequence of interdependent actions

performed by setting participants). This behavioral program results from occupants performing certain "standing" patterns of behavior (so called because they define the setting regardless of who the individual participants are).

Furthermore, settings that are "underpopulated" (have fewer occupants, but the same roles and performance obligations, than otherwise comparable settings) have interesting effects. Research by Barker and others (Schoggen, 1989) found that underpopulated settings force members to engage in a greater variety of actions (e.g., helping another as well as completing one's own task). All members (even those with marginal ability) are more valuable in underpopulated settings, because success depends on every member's contribution. Shortcomings in what individual participants contribute to the setting are identified and corrected more quickly. Frequent social interaction and more cohesive relationships also characterize an underpopulated setting, along with a greater likelihood that members will learn from each other and develop leadership skills. These engaging effects occur more readily with repeated participation in underpopulated settings.

Returning to the college classroom, we noted earlier that instructors cannot change who their students are and have only limited control over the time and place boundaries of class sessions. However, instructors have considerable control over behavior setting programs, and can design these programs to establish standing behaviors of active cooperation and engagement rather than passivity and disengagement. Instructors can intensify these effects on students by underpopulating the setting using the jigsaw technique. That is, jigsaw arrangements restructure the classroom from a single setting where all students share one role having limited responsibilities (as mere "members" of the class) to one where there are any number of subsettings (jigsaw groups) with every student occupying a critical role. In Barker's terms, the jigsaw technique engages students by elevating every one of them to a "performer" role in the setting, with a corresponding increase in the "claims" made on each student to do what is necessary for the setting program to succeed.

Limitations

Given the sparse literature on college classrooms, a number of empirical questions about the jigsaw technique remain unanswered. For example, with the increasing prevalence of online teaching and learning, how much real-time, face-to-face interaction within a jigsaw experience is necessary to obtain the desired effects on engagement and learning? How frequently should the jigsaw

technique be used (e.g., weekly)? What are the effects on engagement of using and then withdrawing the jigsaw method (returning everyone to solitary learning)?

Other cautions are also worth noting. For example, the jigsaw method moves the center of gravity in teaching and learning away from the instructor and toward the students, altering temporarily the distribution of power in the setting. As a result, instructors who opt to use this technique need to be comfortable with ceding control to students for a significant portion of class time. In addition, the interpersonal demands of a jigsaw experience may not be comfortable for all students, some of whom may prefer to complete all parts of a project alone and working at their own pace (Huber, Sorrentino, Davidson, et al., 1992). On the other hand, we have often been able to convince such students that one of the most engaging ways to learn is to teach others, and that mastering leadership and teamwork skills can be useful in other challenging learning situations (e.g., business and professional settings).

Conclusion

Variability in student motivation and ability, and the built-in constraints of a standard classroom setting, are challenges that all instructors face. Aronson's jigsaw classroom promotes student engagement by changing the classroom setting to one where success is contingent on active cooperation and engagement and every student is cast in a role that is critical to success. Use of the jigsaw technique increases the variety of learning experiences, supplementing relatively passive experiences like listening to lecture with in-class collaborations that students value and from which they learn not just course content but also cooperative social skills.

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Using E-Portfolios in Psychology Courses

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The electronic portfolio (e-portfolio) has been gaining acceptance in education worldwide over the past two decades. The increased interest in e-portfolios by organizations and academic institutions may have several root causes. One is the facilitating influence of constructivist theory (Piaget & Inhelder, 1969; Steffe & Gale, 1995; von Glasersfeld, 1995) in effecting a change in pedagogy from a teacher-centered to a student-centered emphasis of instruction. An effective pedagogy from a constructivist's theoretical approach demands that instructors serve as facilitators of active learning (or learning by doing) rather than as traditional teachers (e.g., lecturers). Widespread interest in supporting lifelong learning is also a driving force behind e-portfolio adoption. For example, the Europortfolio Consortium sponsored by The European Institute for E-Learning (EIfEL) (http://www.europortfolio.org/) and eFolioMinnesota, developed by the Minnesota State Colleges and Universities System (http://www.efoliominnesota.com/), encourage and support widespread use of e-portfolios for lifelong learning.

Another factor contributing to the growth of e-portfolio use is the increasing pressure for accountability and assessment in education. The bulk of e-portfolio development in higher education is in disciplines that must answer to accrediting bodies. The standards of the National Council for Accreditation of Teacher Education (2008), for example, mandate that technology be integrated across teacher education curricula and that "technology should play an increasingly important role in data gathering and analysis, as well as more broadly in unit planning and evaluation" (p. 28). Institutions of higher learning see e-portfolios as an effective way to achieve these new standards for accreditation. The EDUCAUSE Learning Initiative (2010) is a community of higher education institutions and organizations that is leading an e-portfolio initiative to advance assessment of learning in higher education and to improve student learning.

To take full advantage of e-portfolios it is necessary to have a facility with computers, to develop mastery with some basic computer applications, and to keep up with the latest technologies emerging from the new and improved Web (i.e., Web 2.0). The modern student, often stereotyped as a "Millennial" (Howe & Strauss, 2000) or "Digital Native" (Prensky, 2001), and who does not know a world without computers, grew up in a time of intense technological change. Thus, another factor that may contribute to the enthusiastic adoption of e-portfolios is the perception that today's student is completely at home in the digital world and is adaptable to rapid technological change. But recent studies suggest that although students are comfortable with technology and confident in their facility with computers, their technology-use skills typically do not exceed the very basic level of proficiency (Kennedy, Judd, Churchward, Gray, & Krause, 2008; Kvavik, 2010; Lenhart, Purcell, Smith, & Zickuhr, 2010; Oblinger & Hawkins, 2006; Sue, Karl, & Lisa, 2008; Zimic, 2009). The characterization of the current generation of students as a homogeneous group with technical skills and a distinctive learning style is a stereotype that may lead to uncritical assumptions and a failure to provide undergraduates the opportunities to learn and develop effective technological skills.

The development of technological skills is included among the set of optimal expectations for psychology students in the *APA Guidelines for Undergraduate Psychology Majors* (2007) and was identified in a recently proposed set of performance benchmarks for high-quality undergraduate programs in psychology - "Distinguished programs ensure that students are provided with opportunities to develop technological expertise that generalizes beyond the university" (Dunn, McCarthy, Baker, Halonen & Hill, 2007, p. 659). As teachers and facilitators of undergraduate psychology learners, we must resist the digital native stereotype and distinguish between technology use for convenience (Kvavik, 2010) and technology use for the creation of new content. The perceived (and actual) conveniences of technology are a driving force behind our technology-rich culture, but students should be learning to be content creators too. According to a recent Pew internet survey (Lenhart et al., 2010) technology use and gadget ownership (cell phones, mp3 players, computers) among teens and young adults has

increased since 2006 suggesting increased facility with technology, but their content creation activities (e.g., blogs) have declined or remained unchanged. It appears that most students are not likely to engage in content creation unless they are given assignments in their classes.

There is a Place for the Course E-Portfolio in the Psychology Curriculum

Curriculum-wide e-portfolios engage students in a deeper study of psychology and provide students opportunities to acquire and develop measurable technology skills that they take with them beyond the university and into the workplace. Of course the effective use of technology in the classroom depends on the instructors' comfort with the technology and the abilities of the students. Instructors often express concern over the need to learn new technologies to implement e-portfolios into the curriculum and worry about the increased workload needed to evaluate the students' e-portfolios. Diversity among the students in terms of their academic abilities, time managing skills, and motivation can also make a curriculum-wide e-portfolio project a difficult endeavor. A less ambitious project is to use familiar technology to create e-portfolios for selective courses. The *course e-portfolio* can be adapted to the capabilities of the instructor and students and can achieve the following:

- Support the teaching of the content of the course.
- Provide students with opportunities to create personalized resources or artifacts that integrate material and can be carried to advanced courses (e.g., Senior Seminar) and activities (e.g., independent research).
- Provide students (and instructors) opportunities for deeper learning of familiar software (e.g., Microsoft Word, Excel, and PowerPoint) and opportunities to develop additional technology skills.
- Allow instructors to demonstrate genuine facility with computer use and how it relates to problem solving. That is, to serve as a role model for the appropriate use of technology.
- Promote students' self-assessment of learning by helping students maintain a permanent, easily accessible record of course work. The course work may include, but is not limited to, reflections as well as "best works" that students can showcase when opportunities arise.
- Build an easily accessible collection of student artifacts for departmental evaluation. With a collection of student works from several courses, a psychology department has an opportunity to evaluate the practicability of a curriculum-wide

e-portfolio requirement and the possible incorporation of artifact evaluation in outcome assessment plans and procedure.
- Introduce the students to the concept of lifelong learning and reflection.

Begin Course E-Portfolio Projects with Technology that is Familiar

Microsoft Office™ is an accessible and effective tool for creating course e-portfolio projects. Microsoft Office is available to most students with a Windows or Mac platform and a free open-source office software suite that is compatible with Microsoft Office is available at OpenOffice.org (http://www.openoffice.org/). Moreover, instructors and students are familiar with this software, yet there is opportunity for deeper learning that will enhance technology skills and improve productivity. Students typically list Microsoft Word, Excel, and PowerPoint as skills on their resumes. But skill is characteristically confused with familiarity. A skill goes well beyond familiarity, involving "proficiency, facility, or dexterity that is acquired or developed through training or experience" (*The American Heritage Dictionary of the English Language*, 2003).

Microsoft Word. Students may have years of experience with the various iterations of Microsoft Word and yet not use much beyond the basic features. To help students on their way to developing genuine word processing skills instructors can require some deeper levels of use. One simple but powerful feature of Microsoft Word is the ability to include hyperlinks to internet sites and to documents on the user's hard drive. For example, an assignment I give students in all my classes requires that they create a *Personalized Library Resources Page* (Figure 1).

Students create a single Word document with hyperlinks to psychology-related library (e.g., PsycArticles, PsychInfo, and ScienceDirect) and internet resources, as well as resources that they use in other classes or have discovered on their own. This artifact allows instructors to evaluate students' knowledge of library and information technology resources that are available for researching the literature and provides students with their own personal document for accessing these resources that is easily transported to other courses.

Hyperlinks also provide a simple and effective way to create course e-portfolios with Microsoft Word. By organizing all documents in a folder named *My Course E-Portfolio*, for example, and creating an index page with hyperlinks to the documents in the folder, the course e-portfolio can be made portable by copying the files to a CD, DVD or jump drive. When the files are uploaded to a free file hosting service in the internet cloud (e.g., Dropbox™ https://www.dropbox.com/home) students can give permission to anyone with internet access to view their course e-portfolio. Another useful feature of Microsoft Word is the *Review* tab (Office 2007/2010) or *Reviewing* toolbar (Office 2003). The *Track Changes* and *New Comment* features allow instructors to give students detailed feedback on their writing and provide an easy way for students to review each other's papers. The final version of their paper and the previous marked-up drafts can be included in the student's final course e-portfolio. Additionally, in Microsoft Word 2007 and Word 2010 you can automatically generate a reference section in APA style with the *Citations & Bibliography* group in the *References* tab.

Microsoft Excel. Microsoft Excel is most often used in psychological statistics and research methods courses, but Excel is a more versatile and practical application than most instructors realize. I use Excel in all my classes to increase basic familiarity with the program while teaching important concepts.

Figure 2 shows an Excel workbook used as a dynamic activity to teach the normal distribution and to familiarize students with, among other things, the multi-worksheet structure of an Excel workbook.
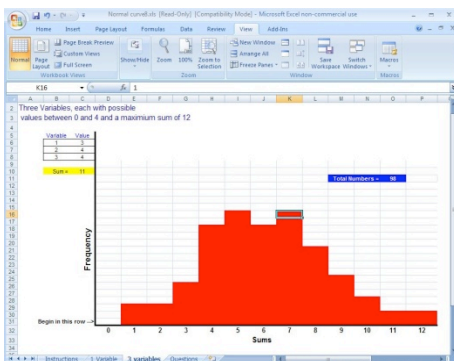
The figure shows the exercise open to the third worksheet as indicated by the tabs at the bottom of the Excel window. A student at this point in the exercise would have already read the instructions and background information in the first worksheet (the *Instructions* tab) and completed the demonstration in the second worksheet. After answering questions in the final Worksheet (the *Questions* tab) the students submit the assignment and incorporate it into their course e-portfolio.

The once clear distinction between word processor, spreadsheet and database is now blurred. For example, Excel is a simple but effective database. Why do psychology students need a database? Students can submit their literature search results in an Excel file rather than a Word document. Each article, book or other reference occupies a row with the columns containing basic information (e.g., authors, title, and journal name) as well as key search terms and notes. Excel is also useful as a database to keep a record of psychology-related web sites and YouTube videos. With a database, students learn to sort their records into various categories as needed (e.g., use the *Sort* tool in the Office 2007/2010 *Data* menu) and search their records efficiently (e.g., use the *Find & Select* tool in the Office 2007/2010 *Home* menu). To use Excel as a database the data need to be structured in the list format with fixed column and row widths. This format does not allow text of varying lengths to be displayed fully. But the individual cells need not display the full text for the database to be effective. The text in a cell should be left-justified so that the first few words are visible and the full content can be read in the formula bar at the top of the screen (clicking the down arrow on the right side of the formula bar in Office 2007/2010 will expand the text further).

Figure 3 shows a database of web sites sorted to display sites related to teen depression and suicide. Each row is a different web site.

The second column identifies the content effectively even though all of the text is not displayed. To see the remainder of the text, or the URL in the next column, for example, you can select the cell and read the text in the function window. The

ability to include *Comments* (located in the *Review* menu) is another useful feature in Excel. A red triangle in the upper right corner of a cell indicates a comment. Moving the cursor over a commented cell displays the text in a comment bubble. In the example database shown in Figure 3, I included comments to provide step-by-step instructions for rating web sites (adapted from Tate, 2010).

Excel can also replace some assignments that students normally create with a word processor such as forms for surveys and APA-style tables. *Copy as Picture* in the *Paste* link in the *Home* menu can be used to copy the table to a Word document as a picture.

By learning just a few additional features in Excel (see Table 1) students and instructors gain access to a powerful tool for solving problems, maintaining records, and creating dynamic presentations that rival PowerPoint presentations (see Vigorito, 2008).

Figure 4. Example of a dynamic PowerPoint artifact. After just a few basic instructions on using Microsoft Excel the students created this resource for studying the possible outcomes of a 2 x 2 factorial design.

For additional exercises the abstract labels (e.g., Factor A, A1, or A2) can be replaced with specific independent variables from hypothetical experiments. This worksheet is a useful pedagogical resource for the study of main effects and interactions that students can use in other courses as a refresher on factorial designs.

Microsoft PowerPoint.

Most students know how to create basic presentations using PowerPoint, but this program is a versatile tool that also can be used to support writing projects. PowerPoint is a simple and effective tool for creating and manipulating images in lieu of other more sophisticated programs. For example, on some assignments I require students to include a figure to augment the text in their essay with information shown pictorially (e.g., concept maps, schematics of experimental procedures). It takes only a few minutes of class time to review the illustration tools on the *Insert* menu in PowerPoint (e.g., Shapes, Arrows, Text Box, Clip Art,) and to show students how to use these tools to create a drawing on a single PowerPoint slide. The PowerPoint slide can be converted to a single image by selecting all of the individual components on the slide (hold down *Ctrl* while clicking each component) and selecting *Group* from the right-click menu. To save the grouped image as a picture (e.g., jpg, bmp) that can be imported into a Word document right click on the grouped image and select *Save as Picture* from the menu. With some practice, students learn to create effective diagrams that improve the quality of their papers and poster presentations.

Simple assignments using PowerPoint as a problem-solving tool can be incorporated into any

Table 1
Useful Features of Microsoft Excel that Provide a Deeper Use and Understanding of Spreadsheets

Feature	Options	What it does	2003 Menu	2007/10 Ribbon	Right Click
Shortcut	control -c, -x, -v, -y, -z	Key board short cuts for copy (c), cut(x), paste (v), re-do (y) and undo(z)	keyboard	keyboard	
Insert/Delete	• row, column, cell	Select a column or row for deletion or insertion.	Insert	Home	√
	• worksheet	As with slides in PowerPoint multiple worksheets can be used in a presentation. Add as many worksheets as needed, Click on the tabs to advance through the ordered worksheets.	sheet tab scroll bar	sheet tab scroll bar	√
Cell referencing	Relative, Absolute	When copying and pasting a formula to a new cell the formula changes to reflect the new column and row. This makes it easier to repeat formulas for many columns, but some times it is desired not to change the formula. In this case insert dollar signs, $, to make the cell rows and/or coulmn absolute (e.g., A2 is relative, A2 is absolute)	formula bar (ʃx)	formula bar (ʃx)	
Format Cells	number, allignment, font, border,fill, wrap	Change the appearance of the text color, cell fill color, allignment, and much more	Format	Home	√
Paste Special	formulas, values, formats, comments, Paste Link	A cell contains many attributes. When pasting copied content to another cell all of the attributes are copied. To selectively copy a single attribute (e.g., the cell vaule) select *paste special* after a copy and choose the desired attribute to paste.	Edit	Home	√
Comments		Annotate a spreadsheet with comments. Cells with comments are marked with a red triangle in the upper right corner; place the cursor over a marked cell to read the comment	Insert	Review	√
Formulas	functions, references, constants, operators	Enter equations directly into cells rather than the desired values. Equations always begin with an equal sign [e.g., =average(A4-A10)]; the general rules of mathematics applies in these equations [e.g., for standard error enter the equation =STDEV(A4:A10)/SQRT(7)]	formula bar (ʃx)	Formula	
Hyperlink	insert	Add hyperlinks to internet sites or to documents on the hard drive, CD, or Jump drive.			√
Picture	• insert, clipart	As with PowerPoint, pictures can be added to a worksheet.	Insert	Insert	
	• as picture	Copy any section of a worksheet (e.g., graphs, tables, objects) as a picture to paste to another program; the cell gridlines can be omitted for manuscript-quality pictures or or included if desired.		Home	
Freeze	rows, columns	For worksheets with a large number of columns or rows freeze the left most columns or top most rows that serve as column and row headings so that they remain visible while scrolling	Window	View	
Drop-down List	data validation	Drop down lists can be easily created to restrict entries into a cell (e.g., Multiple choice question) or make data entry easier.	Data	Data	
Conditional Formatting	font, font, color, fill color, border	Select one or more cells and create rules for when and how those cells are formatted. The cell format setting can be controlled based on the selected cell's contents, or based on the contents of another cell.	Format	Home	
Sort	table, range	Sorting is an important advantage of spreadsheets and databases. Drag over two or more rows with data to be sorted, choose sort or "custom sort" and select the column to sort by.	Data	Home & Data	√
Filter	table, range	Use the AutoFilter to hide some data. Select the cells with the labels for the columns of interest and select Filter. A dropdown heading appears beside each column heading with a choice of criteria.	Data	Home & Data	√

Note. The location of the features in Microsoft Office 2003 and 2007/2010 are listed in separate columns. Many of the features listed are accessible from the mouse right click button (see √ in last column). Use the terms in the first two column to search Microsoft Excel Help (F1) for more information. This table was created in Excel and copied as a picture.

As a final example consider the 2 x 2 contingency table that is used to explore the various outcomes of a factorial design in a research methods course. I have students create a 2 x 2 contingency table and plot the main effect and interaction graphs as shown in Figure 4. When the values in the four cells (E4 to F5) are replaced with new values the graphs are instantly updated allowing students to explore all possible outcomes of a 2 x 2 factorial design.
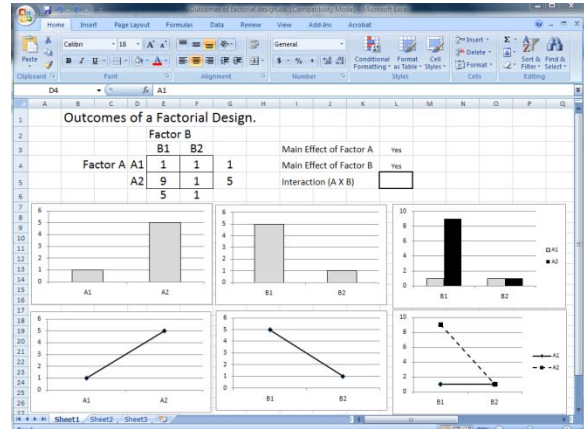
course. My introductory pychology course students, for example, confirmed the claim on a Wikipedia page (http://en.wikipedia.org/wiki/Color_constancy) that the squares A and B shown in the checkerboard on the top of Figure 5 are exactly the same shade of grey.
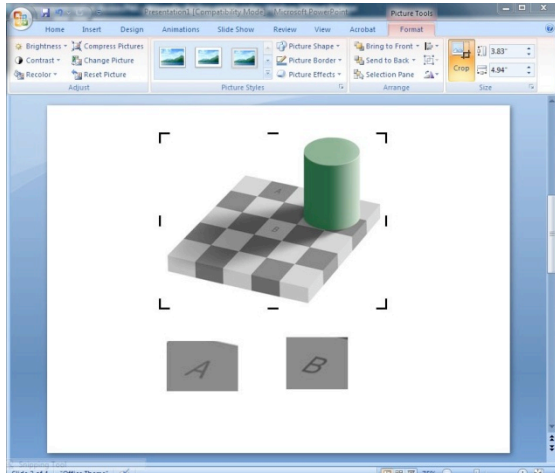

Figure 5. Using Microsoft PowerPoint as a basic digital image creation and editing application. In this example students used the cropping feature of PowerPoint to confirm that the difference in the apparent shading of squares A and B is an illusion of color constancy.

In this assignment students created three copies of the figure and used the cropping tool in the *Format* menu to isolate Square A in one copy and Square B in the other copy (bottom of Figure 5) in order to demonstrate that the two squares are the same shade. Students included a brief discussion of color constancy in the PowerPoint and submitted the file to complete the assignment.

Example Course E-Portfolios

Course e-portfolios need not consist only of written assignments and reflection pieces. Artifacts or templates created primarily by the instructor also have a place in a student's course e-portfolio when the artifacts provide students with opportunities to develop technological skills and to learn course content. A student's course e-portfolio is not only personally relevant, but it is also a resource that is readily accessible and transportable to other courses in the undergraduate curriculum, graduate school, and workplace (Scuito, 2002). Course e-portfolios can vary in complexity depending on the course structure and class size. Below are descriptions of two example course e-portfolios.

Introductory psychology.

Figure 6 shows an example course e-portfolio index page from an introductory psychology course of approximately 100 students. Four artifacts were included in the course e-portfolio. The index page lists brief, hyperlinked descriptions of the included artifacts.
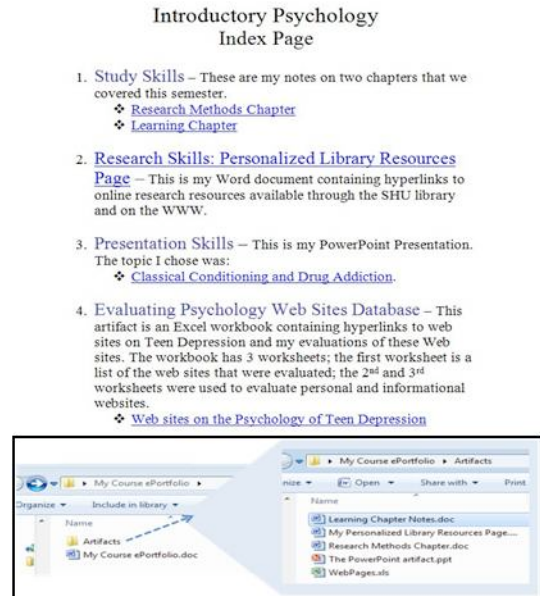
Figure 6. Example index page of a course e-portfolio for an Introductory Psychology course. The insert shows a directory structure of the course e-portfolio that preserves the hyperlinks when the *My Course E-Portfolio* folder is copied to a CD or other data storage media.

The students used Word to create the *Personalized Library Resources Page* with hyperlinks as described above. I introduced the Psychology-related databases briefly in one class and provided detailed written instructions on how to locate the URLs and add them to the index page. The Excel artifact that is listed in the index page was a database of Web sites that was described above. To assist students with technical questions about using Excel I set up a discussion board in Blackboard. Although I monitored the discussion board regularly the students in the class often responded to each other's queries. Students submitted the assignments on specified due dates throughout the semester, but at the end of the term the students burned their course e-portfolio to a CD. (Interestingly, several students remarked that it was their first experience burning a data CD.) The files were organized in a *My Course E-Portfolio* folder that included the index page and a single folder containing all of the artifacts. Provided that the hyperlinks on the index page are created after

the artifacts are placed in the folder, the hyperlinks will remain intact when the *My Course E-Portfolio* folder is copied to a CD or any other storage media.

Research methods.

I use a course e-portfolio index page in my Research Methods course (Figure 7) that draws attention to the nonlinear aspects of the research process (Bordens & Abbott, 2002).

Index

The Research Process
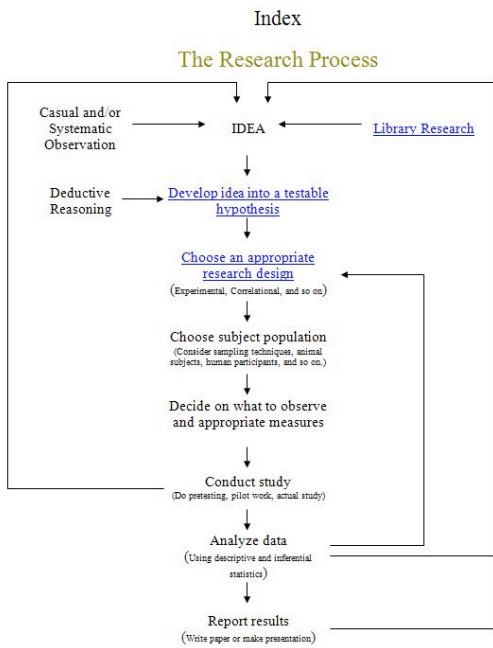
*Diagram is from Bordens, K. S., & Abbott, B. B. (2002). *Research design and methods: A process approach* (5th ed.). Mountain View, CA: Mayfield..

Figure 7. Example index page of a course e-portfolio for a research methods course. The use of hyperlinks to create a non-linear narrative exemplifies the structure of the research process.

A student's introduction to scientific research process may occur at any point in the process. A student's first research experience, for example, may be to help test participants in an ongoing study (Conduct Study) or help analyze previously collected data (Analyze Data) or assist with a literature search (Library Research). Students rarely enter the research process at the top of the flow chart (Idea). As we progress through the research methods course and the various aspects of the research process are covered the students create links on their index page to Word documents that contain notes and hyperlinks to web

sites, Excel files, and other artifacts. For example, the *Library Research* hyperlink opens the Personalized Library Resources Page and the *Data Analysis* hyperlink opens a Word document with hyperlinks to documents, homework assignments, and files that instruct data analysis such as the Excel workbook created to explore 2 x 2 factorial designs that I described above. The *Report Results* link opens a document that contains hyperlinks to the final research report as well as the earlier drafts with instructor comments. By the end of the semester the students in the research methods course will have used Microsoft Office extensively to create their e-portfolio and at a deeper level than they would have on their own. Moreover, the course e-portfolio becomes accessible to the students as a resource for other courses in the curriculum (e.g., Senior Seminar, Independent study).

Summary

My purpose here was to discuss the pedagogical benefits of course e-portfolios, rather than department-wide or institution-wide e-portfolios, and to provide some example artifacts that contribute to learning of course content and the development of technology skills. The ease of implementing some of these examples will depend on one's familiarity with Microsoft Office and may require some time learning new features. Microsoft Office help (press F1) is very useful for instructions on how to do new tasks. I also find the Web to be very helpful. Entering a task into a search engine (e.g., "How to add comments in Excel") yields many excellent Web sites with detailed instructions and tips. It is important, of course, to make sure that adding an e-portfolio component to a course does not require students to spend an inordinate amount of time learning to use the software rather than learning psychology. I have found that using Microsoft Office to create e-portfolios minimizes time spent in class on learning software. Moreover, the students recognize and genuinely appreciate the improvement in their technology-use skills.

The adoption of course e-portfolios by at least a few faculty in a department also provides a department with the opportunity to evaluate the effectiveness of e-portfolios for instruction and assessment and to ease into an evaluation of the feasibility of a curriculum-wide e-portfolio project.

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Insert Comment Technique Promotes Student Engagement in Online Courses

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Chickering and Gamson (1987) identified seven principles for effective practice in undergraduate education: (a) student-faculty contact, (b) active learning, (c) prompt feedback, (d) time on task, (e) high expectations, (f) respect for diverse learning styles, and (g) cooperation among students. Institutions and instructors applying principles of good practice foster student engagement in college (see reports from the National Survey of Student Engagement at http://nsse.iub.edu/index.cfm).

Our audience is educators who are interested in using a familiar technology to better engage students in an online course. In this chapter, we describe the *insert comment* technique and its use. Subsequently, we present case studies illustrating the efficacy of the technique and then discuss related strategies for promoting student engagement. Finally, we suggest further research and ways to adapt the *insert comment* technique to meet instructors' pedagogical goals.

The *Insert Comment* Technique

Many readers know about the Insert a New Comment function in Microsoft Word. Reviewers or teachers can insert a comment balloon that appears in the margins of a paper in Print Layout. According to the 2007 version of Word Help, writers can "use these balloons to easily see and respond to reviewers' changes and comments on a paper."

There is a small scholarly literature regarding the pedagogical use of electronic editing tools such as Track Changes, Text Highlighting, New Comment, and Insert Voice. Milton (2006) and Yohon and Zimmerman (2004) advocated inserting instructor and peer comments on digital copies of student papers. McCabe, Doerflinger, and Fox (in press) evaluated student and faculty perceptions of electronic feedback. Student participants regarded electronic feedback (e.g., Text Highlighting and New Comment) as more convenient and effective than the traditional handwritten comments on their papers. Instructors regarded electronic feedback as more valuable than traditional handwritten comments on

papers even though the two methods of feedback required comparable time and effort. Related articles illustrate how to use the Inking feature of tablet personal computers (McVey, 2008) or Insert Voice comments into student papers (Ice, Curtis, Phillips, & Wells, 2007; Still, 2006). Ice et al. compared and contrasted outcomes for digital comments (i.e., audio versus text) on student papers.

The literature about text or voice comments implies that authors write papers and reviewers or instructors insert comments into the papers. That is, the comments flow in one direction from annotator to author. Another possibility is that authors write papers and comment on their own works (Weinstein, 2006). Weinstein's rationale for comment balloons providing a two-way street is that the technique engages students in metacommentary. That is, students identify both what they are saying and how they are saying it. Black (2005) presented an example of metacommentary in a non-academic environment. She indicated that authors of fanfiction (e.g., www.fanfiction.net) often post *insert comment* statements about their stories as well as requests for reviews and recommendations.

Use of the *Insert Comment* Technique

The first author teaches an online psychology course about sensation and perception. Students in the course do three assignments and two exams for each unit. For one assignment, students read the textbook and then write answers to questions on a reading guide. In addition to posing questions, the reading guide presents links to perceptual demonstrations and other resources that help students master the content. The reading guides differ in purpose from the multiple choice exams and essay exams. The exams assess students' understanding of concepts in the textbooks, whereas the reading guides endeavor to engage students with the subject matter. That is, the reading guides prompt students to read and think about the chapter content, determine what students understand (better and worse), declare what interests students (more and less), and identify and

ask for the help students need. The reading guide questions and students' answers serve as study aids for the exams. We regard the reading guides as analogues to guiding questions that enhance learning from videos (see Lawson, Bodle, Houlette, & Haubner, 2006; Lawson, Bodle, & McDonough, 2007).

To receive full credit, students must insert comments into their reading guides about (a) the most and least interesting topics, (b) the easiest and hardest to understand topics, and (c) what they would modify with respect to the assignment. The appendix presents an example of a reading guide by a student who granted permission but preferred to remain anonymous. Later the instructor either enters comments when grading the assignment in the course management system or posts a document in the Discussion forum. For example, the Discussion posting contains excerpts, answers, and comments from students as well as instructor answers, feedback, and general comments such as those that appear in this quote:

> I have read all of your C4.1 submissions and excerpted comments from students. My goal is to provide answers, feedback, and the perspective of the instructor. Overall this assignment worked pretty well for many students; however, it virtually impossible to devise assignments that work perfectly for all of the people and all of the time. If we continue to work together as a community, we should be able to figure out many things pretty well. So I do appreciate your comments here and those in the Discussion forums—keep them coming!

The post presents excerpts from the students and the replies by the instructor to specific comments. For example, one student said that "The least interesting topic nothing really…I enjoyed this chapter☺" and the instructor reply was that "In the past, students said similar things about chapter 4." A second student said "The hardest topic to understand was the topic of contextual modulation. I had to really study the figures provided in the text and concentrate on what the definition was saying before I was able to grasp the concept." A third student noted, "The hardest to understand topic was contextual modulation and its causes. I would suggest offering a couple of websites to look at to better understand this." And the instructor replied "I searched for some but did not find any. So this is a great idea for the take home essay exam for the chapter."

In sum, the student comments and instructor replies demonstrate two-way communication. Moreover, students who read the instructor's comments learn that other students may or may not have the same interests, understanding of topics, and suggestions for change.

Case Studies

In this section, we provide student impressions about the process of commenting on their assignments. Our evidence that the technique enhances student engagement is qualitative rather than quantitative and must be regarded as tentative rather than definitive. The initial examples come from two student volunteers who requested anonymity. For example, a student who earned an A grade in the course said:

> As far as the comments we're asked to add to each reading guide, I feel as though they furthered the development of the learning community on two levels. On one level, the comments forced us to reflect on the learning experience we had just had after completing a reading guide. It allowed us to pinpoint areas that we needed to go to other sources to understand them better. On the second level, being able to read the comments that other students had added to their assignments encouraged students to talk more about things that were unclear. It was nice to know that other people had the same problems, or enjoyed the same areas, on each of the reading guides.

A student who earned a C grade in the course said:

> One thing that I thought was a bit tedious was entering in comments for every assignment. Again, I understand the reason behind this requirement, but I liked how in chapter 9 there was a section at the top that just came out and asked the questions, rather than us having to insert comments. I know it's not rocket science or anything, but simpler is usually better especially when people are busy with other courses, work, etc. To summarize, I prefer the chapter 9 format for comments. However, I did like the fact that the instructor cares what the students think and what we think should be changed, deleted, etc. It is nice to know that every comment is read and taken into consideration- it feels like we actually are contributing to a learning community.

The second and third authors of the chapter are undergraduates who synthesized their impressions about the *insert comment* technique. Both students completed reading guides or comparable assignments in at least two courses. In addition, both coauthors

served as undergraduate teaching apprentices who read the comments students put into their own assignments. The following paragraphs (set in italics) appear in their own voice:

Often times while completing homework assignments for any class, I forget my own thought processes as to how I answered questions as soon as the question is complete. This is extremely counterproductive, because when referring to the question during study or discussion, I cannot remember how I came to the answer. The technique of inserting comments helps me remember how I came to my answers, but learning how to reflect on your thought processes takes practice.

In the first assignments that I was told to leave comments about the questions, I was confused. I never wrote comments on any of my work, nor had any of my previous teachers asked for my specific feedback on what was easy or hard to understand. I had no idea what to write about or how in-depth to make my responses. The entire idea was a strange concept to me. I had never really looked at conceptual material for a class under the scope of my own thoughts and opinions.

As the semester continued, I began to anticipate these comments and started to look at my assignments from a different perspective. In some ways, it was like learning to read again. I began to expect the need to think about the concepts in terms of my own thoughts and opinions and therefore was reading on a deeper level. The thoughts became deeper, but the process became more fluid and automatic. By the time I finished the class, the comments were an unconscious process. Between the automatic need to write the comments and the ease of finding something to write about, I discovered that my learning technique as a whole had changed.

Looking back at some of my previous work, I found that I was unable to recall what inspired my comments. My state of mind and stream of thought were impossible to recapture. The process of metacognition, for me at least, was only memorable for a finite amount of time. This is easily explained by the fact that thoughts and memories are easily manipulated cognitive processes; without proper context and reference, they rarely make logical sense. Despite these issues, the value of the learning technique I acquired still exists. Learning is a process; reflecting on that process brings a great deal of insight to how a person thinks and understands. The only problem is finding a way to record what is learned from this insight in a timely fashion.

With practice, the meta-cognitive technique of reflecting on my answers increased my understanding of the assigned material, and in turn a

greater understanding of the course material. Though difficult at first, this reflection process will increase comprehension and recall of course material for much longer than simply completing assignments.

Related Techniques

There are some alternatives to the *insert comment* technique that also require students to reveal what and how they think while doing writing assignments. For example, instructors could ask students to submit similar kinds of comments in a cover letter or as an audio file.

The intent of the *insert comment* technique and either the cover letter or audio file is the same. Both approaches endeavor to accomplish APA (2007) Goal 9 regarding personal development. That is, students will develop insight into their own and others' behavior and mental processes and apply effective strategies for self-management and self-improvement. The primary advantage of the *insert comment* technique is that question, answer, and comment appear together on the screen rather than in two locations. The first author noted that some students meet the *insert comment* requirement by typing several lines at either the start or the end of the assignments. Typical comments entered this way are less thoughtful and less revealing to the reader. Overall, the juxtaposition of authors' text and comments favors the *insert comment* rather than cover letter technique. The same argument applies to Insert Voice comments when students embed an audio message at the start or end of an assignment.

Another alternative to the *insert comment* technique is available to instructors. Just-in-Time-Teaching (JiTT) is a pedagogical strategy devised by a physics instructor, Gregor Novak, and documented online at http://jittdl.physics.iupui.edu/jitt/. In brief, instructors send learning assignments and resources to students electronically (e.g., via email). In turn, students do the assignments and submit comments and questions to the instructor prior to next class. The instructor evaluates the students' understanding and adjusts lecture and classroom activities to answer questions, provide feedback, and satisfy the students' needs. Although articles and presentations about JiTT are more common in other disciplines, Benedict and Anderton (2004) used the approach while teaching statistics to students in a psychology course. In addition to expressing satisfaction with the approach, students in a JiTT class performed better on a final exam than students in an otherwise equivalent class. The authors reported that JiTT also works in introductory psychology and research methods courses. We conclude that the *insert comment* and JiTT techniques aspire to similar ends and employ

comparable means. Reading the JiTT literature may suggest adaptations of the *insert comment* procedure that would help teachers meet disciplinary goals for undergraduate education in psychology (APA, 2007; 2008).

Further Research and Possible Modifications

We have presented suggestive, but not conclusive evidence that student use of the *insert comment* technique accomplishes six of the seven principles of good practice for undergraduate education specified by Chickering and Gamson (1987). Although the technique does little to develop reciprocity and cooperation among students, we believe it fosters the remaining six principles. For example, the process encourages active learning and contact between students and faculty. That is, the students learn the material and also have to think about the process of learning the course content. The technique gives prompt feedback at several different levels, communicates high expectations, and emphasizes time on task. Finally, the procedure respects diverse talents and ways of learning.

Our qualitative data justify further study of metacommentary. For example, it would be interesting to compare and contrast sections of a course in which students do or do not use the *insert comment* technique. It also would be appropriate to compare students who read the text with students who read the text and do either or both the reading guide and the metacommentary. Future research might explore various modifications of the procedure.

Instructors who want to engage their students in either online or face-to-face classes can adapt the *insert comment* technique. For example, the first author also asks students to insert a thumbnail photo in all their assignments. Although some students use the same image for all assignments, other students vary the images from assignment to assignment and thereby create an opportunity for dialogue.

To date we have required only text comments on word processed documents; however, we have some experience with students' inserting voice comments. Voice comments can reveal plagiarism. For example, students who researched a topic can speak fluently about it whereas students who plagiarized their work stumble through answers or hem and haw.

Teachers of psychology often read papers and wonder what the student authors were thinking at various points in the paper. Asking students to take the grading guidelines for an assignment such as a research report and comment extensively (e.g., on each paragraph) either in print or voice might function like talk aloud protocols. Understanding the rhetorical task from the author's point of view may help instructors improve their teaching and learning strategies. For example, as an instructor, the first author would like to know to what extent student writers focused on what they had to say (content) and how they tried to say it (style) when they wrote research reports in APA format. Another interesting question is whether and how metacommentary on research reports change from a first to final paper.

One final suggestion is that instructors insert thumbnail photos of their own and also annotate assignments with print and voice comments. Perhaps images and annotations will encourage two-way communications and engage online students on a more personal level.

Conclusion

In this chapter, we described the *insert comment* technique and its use. Our case study evidence for enhanced student engagement is qualitative rather than quantitative and further research is necessary to satisfy standards of evidence based best practices. We encourage educators to adapt the technique and explore the ways in which students learn and regard psychology course content.

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Section 5. Special Opportunities for Engagement

Blaine F. Peden, Editor

First-Class First Classes

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Here is the big idea of this chapter: I am not going to tell you how to engage your students on the first day of class. Rather, I'm going to tell you how to engage *yourself.* My assumption is that if *you* engage more your students will engage more (Skinner & Belmont, 1993), no matter what techniques you use. If you are already engaged skip directly to the "Specific Techniques" section for some new ideas.

If, however, you hold one of the following beliefs or attitudes, this entire chapter is for you: (a) "The first day doesn't make any difference." (b) "Students just want to leave early; why disappoint them?" (c) "I'm so excited by my content that nothing else matters; the first day is boring because students haven't read anything yet." (d) "I just can't get into the course until the second week, when I can talk about topics I like, the students have all added and dropped, and I'm already thinking about the first test." (e) My syllabus is very clear; there's really nothing to talk about." Or, (f) "I've been at this for so long that all my students look alike, I've got a routine that's worked well for many years, and I just can't get excited about one more class." Even mild or fleeting forms of these beliefs tell me that you could use a little pep talk and some justifications to get you more excited about your first meetings with your classes. Read on.

Students do want to leave early and may not appreciate "get-acquainted" icebreakers (Henslee, Burgess, & Buskist, 2006; Perlman & McCann, 1999). Alternatively, there is evidence that encouraging participation can have positive effects on student commitment (Curran & Rosen, 2006; Light, 2001). There is also evidence that the activities on the first day have some impact on student satisfaction (Hermann, Foster, & Hardin, 2010). Thus, you can be confident that the first day is worthwhile. Engagement is a great rubric for thinking about your goals for the first day, to guide your choice making, and to assess your effectiveness.

General Advice: How to Get and Stay Engaged

As you design your first day, clearly articulate your goals regarding: (a) *Course Structure*, including administrative tasks and reviewing key syllabus points and policies. (b) *Content*, including major themes and the place of your course in the curriculum. (c) *Motivation* of students about course content, skills, and outcomes. (d) *Climate*, including helping students know what will happen in class, your major values about teaching and learning, and a heads-up about techniques. Many authors (e.g., Lyons, McIntosh, & Kysilka, 2003) suggest that you socialize students on the first day by doing what you will be doing the rest of the term. For example, if you're going to use cooperative learning strategies (Millis, 2010; Paulson & Faust, n.d.), do some during the first class. (e) *Learning About Your Audience*, including icebreakers and pretests.

Tie your goals to different types of engagement: cognitive, emotional (Mosenthal 1999), interpersonal (Deci, Connell, & Ryan, 1985; Guthrie & Anderson, 1999), interactive, skills (how to learn), and performance (how to get a good grade; Handelsman, Briggs, Sullivan, & Towler, 2005). It might be useful to think of each of the five goals as introducing another level or type of engagement. For example, dealing with course structure might facilitate skills and performance engagement, content goals add cognitive engagement, motivation goals add affective engagement, and course climate goals add interactive engagement.

Think of engagement as a way to actualize your teaching philosophy. If you do not have a teaching philosophy (yet), revisit what you wrote on your graduate school or job application about wanting to help students grow, mentoring, etc., and use your first classes to fill in some of the "blanks." For example, if you're very interaction-oriented and have done only icebreakers on the first day, take a risk and add a short lecture on the course content that most excites you.

Goals and engagement types are not mutually exclusive; combine or adapt your techniques to achieve a combination of goals. For example, if you have small groups discuss the nature-nurture controversy you are fulfilling content and climate goals, and any icebreakers can be adapted to include psychological concepts.

Be aware of *why* you are doing what you're doing (Brookfield, 1995). Don't just follow the leaders and try a technique because they suggested it—do things because of who you are and your goals. In addition, tell students why you are doing what you are doing. Transparency is good advice for any time during the semester, but it's especially good during the first day as it models metacognition, which is a very useful skill for students to develop (Dunlosky & Metcalfe, 2009; Karpicke, Butler, & Roediger, 2009). The first thing to be transparent about is if you're going to use icebreaker techniques or do anything else that (a) takes up the entire time, and/or (b) is not lecturing. Students may be less frustrated if they know the reasons for your choices, and that all your techniques relate to doing well in the course.

When in doubt, *have fun.* Fun, of course, includes the thrills of learning and challenge. If you have let students out early on the first day and/or only lecture over the syllabus, reduce your burnout and increase students' engagement by having fun during the first day. The first day is often a "free period" and students may not expect anything "important" to happen. In addition, you don't have as much pressure to cover content. Thus, the first day can be your best chance to model the skills, qualities, and engagement strategies that you want to see in your students. These skills and qualities include risk-taking, interaction, preparation, metacognition, intellectual wonder, emotional involvement, and communication.

Specific Techniques

The literature is replete with techniques and checklists of things to do (e.g., http://www.cmu.edu/teaching/designteach/teach/firstday.html). Some classic books on teaching have wonderful chapters on the first day (e.g., Davis, 2009; Svinicki & McKeachie, 2011). Here I highlight a range of techniques that can be adapted to fulfill several goals and facilitate several types of engagement. For example, you can introduce content, stimulate motivation, and assess student's knowledge by asking questions (e.g., in the form of a pre-test; Davis, 2003) and then giving a short orientation lecture that includes the one or two big ideas (Bain, 2004). You can follow this by having groups of students generate

and discuss examples from their own lives (Jeanie Allen, personal communication, June 30, 2010).

Orienting questions can be used to highlight the personal relevance of course content. For example, Grace Austin of Sacramento City College (personal communication, June 30. 2010) uses these questions: Did you ever… (a) Have difficulty sleeping? (b) Wish your memory skills were better? (c) Wonder how much of your personality is inherited? (d) Wonder why theme songs from scary movies make you feel afraid? (e) Wish you could decrease the stress in your life? (f) Do something "just because everyone else is doing it"?

Project-oriented courses present other opportunities for establishing relevance and emotional engagement. For example, Anne Hardgrove (personal communication, July 1, 2010) of history at the University of Texas at San Antonio hands each student in her course on "Designing a College-Level World History Course" a letter from a fictitious university. The university congratulates the student on getting his or her first teaching job, and requests materials including a syllabus, reading list, and plans for using technology. She has students discuss their reactions ("from panic to excitement") to the letter.

Sharing personal information can help students with the learning skill of self-referencing (MacKeracher, 2004; Rogers, Kuipers, & Kirker, 1977). Theresa Horn (personal communication, June 30, 2010) of Harrington College of Design has students write anything they want, anonymously, on index cards. She also completes a card. She collects, shuffles, and distributes the cards. Students read them aloud and discuss the comments in terms of (a) what they've learned about their classmates, and (b) some course concepts. Horn reports: "My participation 'creates a safe environment' (direct quote from a student). This exercise/discussion transitions into an introduction to psychology, human behavior, personality, etc." She follows this up with card exercises throughout the semester.

Some professors (e.g., Svinicki & McKeachie, 2011) use their own stories to get the ball rolling. Ali Mattu of the Catholic University of America (personal communication, June 30, 2010) starts with a story "about how my own intro psychology class changed the way I see the world and how I hope to give the same experience back to my students."

To get students to know one another use a *people search* or *scavenger hunt* (Erickson, Peters, & Strommer, 2006; Weisz, 1990)*,* which involves having students find colleagues who fit items on a list of descriptors (e.g., wearing running shoes, having a Wii). Stephen Wurst of SUNY-Oswego (personal communication, July 5, 2010) uses characteristics

linked to course content; for example, in a perception course some items ask about recent 3-D movies.

My own first goal for first days is to show that the course will not be "business as usual" and that students and I will be active together. I email the syllabus to students several days in advance of the class, welcome them, and invite them to contact me with reactions and questions. In my introductory class I have students form groups, and I assign two pages of the syllabus to each member. Students then teach the group about their two pages of the syllabus, and each group generates 1-2 questions which I spend some time answering.

In my ethics course, a senior-level course in which students have had significant experience with first days and syllabi, I break a cardinal rule and defer discussion of the syllabus until Day 2. During our first class meeting we have a full-fledged (although not jargon-filled) ethics discussion. One topic is whether I can invite them to read and critique rough drafts of an ethics book I happen to be writing. Is this exploitation? Another topic: What are the ethics involved in waiting until Day 2 to review the syllabus?

My second goal is to create a close professional relationship with each student. To accomplish this I come early (I eschew the "absent-minded professor" persona of professors who come just in time or late to class with both arms loaded with books, notes, and other materials so precariously placed that the first mysterious element of the course is whether they make it to the lectern or if the materials drop all over the floor.), put on a CD, and shake hands and introduce myself to every student who enters. I then spend the hour, especially when they are in their small syllabus groups, learning their names. At the end of the first class I do a public self-assessment and recite all their names. When they ask how I did that "trick" (I've been successful in groups up to 55) I explain that (a) I make it important, (b) I work hard, and (c) I use the same learning techniques that they will practice all semester.

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The authors present a way to increase students' emotional, skills, and interactive engagement by having them form groups to generate policies about classroom behavior, including such issues as eating and sleeping in class, lateness, and the use of phones. Students then vote on the rules and write the policies on their syllabi. The authors found that students who generated their own rules rated the professor more positively (at the end of the course) than did students in a comparison group who had the same policies conveyed by the professor.

- Grimes, J., & Desrochers, C. (n.d.). *Making your 1st class session really first class.* Retrieved from http://elixr.merlot.org/case-stories/course-preparation--design/first-day-of-class/goals-for-first-day-of-class7.

This multimedia web page is part of a larger project called Merlot Elixr (http://elixr.merlot.org/merlot_elixr?noCache=980:1278336886), produced by California State University. The site offers a variety of "case stories" submitted by different institutions in a wide variety of subjects. The "Goals for the First Day of Class" Page contains video of professors talking about and demonstrating how they achieve their goals, including motivating students (e.g., demonstrations), framing course content (lectures), establishing expectations (e.g., "I will call on you!"), assessing capabilities and previous learning, and creating a good working climate (e.g., students anonymously writing down what they've heard about the class). The site includes "visits" to five classrooms (although lecturing is the major technique demonstrated) and reference materials—including tips from experts, templates, and a summary of goals. The professors are from other disciplines, but give a wonderful introduction to designing first-day activities.

- Hermann, A. D., & Foster, D. A. (2008). Fostering approachability and classroom participation during the first day of class: Evidence for a reciprocal interview activity. *Active Learning in Higher Education, 9,* 141–153.

The authors present and test a reciprocal interview technique that artfully combines course orientation, interaction, small groups, and transparency. In groups, students prepare (a) questions for the professor and (b) answers to questions the professor can ask. The interviews between professor and each group take place with the entire class. The article includes suggestions for topics to be asked about by the professor (e.g., "What are your goals for the course?") and students (e.g., "The instructor's role in the course."). The authors present data showing that the technique increased students' perceptions of the clarity of course expectations and professor supportiveness. The work of Hermann et al. (2010) would suggest that these perceptions of clarity may translate into satisfaction.

- Honolulu Community College (n.d.). *Faculty development teaching tips index.* Retrieved from http://honolulu.hawaii.edu/intranet/committees/FacDevCom/guidebk/teachtip/teachtip.htm.

This comprehensive compendium includes 14 entries

on the first day, including checklists, lists of icebreakers, and tips for learning names.

- Nuhfer, E. B., & Knipp, D. (2003). The knowledge survey: A tool for all reasons. *To improve the academy, 21*, 50-78. And, Nuhfer, E. (n.d.). *Knowledge surveys*. Retrieved from http://elixr.merlot.org/assessment-evaluation/knowledge-surveys/knowledge-surveys.

Knowledge surveys include questions over all aspects of course content (some have 100 questions!). Students do not answer the questions; rather, they indicate on a 3-point scale how confident they are that they could answer them. The authors present the theory, practice, and some results of knowledge surveys. The advantages of this activity include the evaluation of students' knowledge, previewing the entire course, working on self-assessment skills, and inspiring professors to prepare.

- Povlacs Lunde, J. T. (n.d.) *101 things you can do the first three weeks of class*. Retrieved from http://www.unl.edu/gradstudies/current/dev/teachingtools/101things.shtml.

Just what it says! Suggestions are categorized under these seven headings: Helping Students Make Transitions; Directing Students' Attention; Challenging Students; Providing Support; Encouraging Active Learning; Building Community; and Feedback on Teaching. One of my favorites: "Let your students see the enthusiasm you have for your subject and your love of learning."

- University of West Florida Center for University Teaching, Learning, and Assessment (n.d.). *First day of class*. Retrieved from http://uwf.edu/cutla/first_day_of_class.cfm.

Claudia Stanney compiled a wonderful archive of teaching tips focused on engagement and based on sound theory and/or data. Among the topics covered are setting the tone, helping students with study and metacognition skills, setting expectations, and focusing on big ideas. With most of these tips come references and other sites.

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The Last Word: Engaging Students for Life

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Numerous writers and researchers have provided advice about what instructors should do to engage students on the first day of class (e.g., Clement, 2007; Davis, 1993; Henslee, Burgess, & Buskist, 2006; Lucas, 2006; McKeachie, 1986; Perlman & McCann, 2004). These teachers have presented various ideas to engage students and get a good start. Their suggestions include: distribute syllabus and course goals, dress professionally, set a positive tone for the course, begin to learn names, allow students to meet each other, greet students at the door, ask students to write their expectations, and give an assignment or instructions for the next class. Handelsman (this volume) summarizes a number of first-day possibilities and provides an annotated bibliography of publications dealing with ideas for the first day of class.

These are good ideas, and supported by recent evidence that how you begin a class does make a difference—in student perceptions of clarity, judgments of support from the instructor, and ratings of satisfaction with the course (Hermann, Foster, & Hardin, 2010). In contrast, we might also observe that the *last* day of the course is the *first* day of the rest of the students' lives—lives that will experience profound changes in availability of information (Halpern, 2010). What can we do to ensure their engagement, if not with psychology in particular, with the process of lifelong learning? Unfortunately, in comparison to the "first day" literature, relatively few teachers have offered advice about what to do on the last day. A significant proportion of faculty apparently do not employ organized last-day activities, and many simply bring their courses to a close with such traditional events as papers, review sessions, or final projects (Eggleston & Smith, 2002).

In this chapter, I discuss my own view of education and of teaching, and suggest two techniques I have developed in an effort to encourage the goal of lifelong student engagement. These are techniques that embody small parting gifts intended to reinforce student interest and provide a memorable ending.

What Do Students Remember?

Green Ink and an Elephant on a String

A few years ago, I visited a former student who is now a successful psychologist. During our dinner conversation, she asked whether I still marked student papers with green ink. My initial response was a question: Did I *ever* mark papers with a green pen? Although I had no recollection of ever doing so, my former student insisted that I had told the class I used green ink because red might seem like blood on the page.

On another occasion, I received a remembrance from two students who mentioned my elephant on a string. I do not, of course, keep a live elephant in my office (although it might prove interesting to my colleagues who study animal behavior). I do have on my desk, however, a small iron elephant-shaped paperweight, wrapped in string. The elephant on a string lives on my desk so that it is handy whenever I intend to teach the Pulfrich phenomenon; I unwind the string, and *voila!* The elephant becomes a pendulum, ready to give the illusion of a football-shaped trajectory for students with a filter covering one eye. This, of course, gives rise to the challenging effort to account for this fascinating effect.

What Does it Mean?

I found my former students' memories surprising, until I began thinking about my own teachers and some of their memorable characteristics. I thought of Miss Dunn, the stern, demanding first grade teacher in whose classroom I fell in love with reading; she insisted that, in the classroom, I must be "Kenneth"—no nicknames allowed. I also remembered Mr. Copeland, the bright, sensitive high school geometry teacher who opened the door to careful, reasoned logic. Copeland's crossword puzzles left me with

good memories and, years later, a useful teaching activity. Or Professor Barrows, who insisted that the essential intellectual tools were reading, critical thought, and access to a library; he was the first person whom I ever heard publicly question the existence of God.

I realized, as I thought about the lessons these teachers gave me--*rigor, discipline, serendipity, logic, critical thought, curiosity, kindness, respect, and generosity*—that I had no recollection of any of these words appearing on a lesson plan or syllabus. Yet these are the things I remember about my teachers. Were they mindful of the legacy they had left me? And what about the teachers for whom I had little or no memory, or whose legacy made me want to become a believer in repression? Was that what they had wanted? Perhaps, I thought, I should be more purposeful in contemplation of my own legacy as a teacher. Although I specify learning outcomes in my courses, and try to help my students achieve them, my own experience seemed to be suggesting that other, unintended messages were perhaps more salient. What, in the end, should I leave with my students?

Psychology of Endings

Lutsky (2010) reported a course titled "Psychology of Endings." Intended for students approaching the end of their undergraduate careers, Lutsky's course entails a broad range of material on the concept of endings—in literature, relationships, therapy, conversations, careers, poetry, and, ultimately, life. Endings, Lutsky observed, ". . . have the power to transform how we remember and evaluate parts of our lives and how we tell the stories of our lives" (p. 337). Endings may even, due to the recency effect, be more important than beginnings (Goodwin, 2010).

Gilbert (2005) has suggested that we perhaps place a disproportionate emphasis on the importance of endings. Thus, he argued, we may prefer an average movie that ends well to a superb one with a flawed finish. This seems to be an effect that is not limited to our choice of films. For example, Kahneman, Fredrickson, Schreiber, and Redelmeier (1993) subjected research participants to two painful conditions: one involved immersing a hand in cold water, and the other required the same immersion in cold water, followed by a briefer period in slightly warmer (but still painfully cold) water. Interestingly, the participants preferred the

longer immersion treatment, even though it meant enduring more overall pain. Apparently, the less painful ending colored, in a favorable way, the memory of the experience. It may be the case, Kahneman et al. concluded, ". . .that people prefer to repeat the experiences that have left them with the most favorable memories—not necessarily the experiences that actually gave them the most pleasure and the least pain" (p. 404).

I do not take the comments of Gilbert (2005) or the research of Kahneman and his colleagues (1993) to imply that a good final day can salvage or memorably reconstruct a bad course. However, it could mean that a very demanding (or even painful) course may leave students with a favorable perception and an inclination to take more similar courses in the future. This possibility certainly makes it worthwhile to take seriously the parting memories we help students to construct. To that end, I have adopted the custom, on the final day, of presenting my students with two things: a letter putting in perspective our time together, and a recommended reading list.

Parting Gifts

Letters

For many years, students in my introductory psychology classes have writtten a series of four letters (Keith, 1999). Each letter, along with a brief explanation from me, goes to a recipient whom the author (student) selects—usually a parent, friend, or high school teacher. The letters contain the student's effort to explain, for a non-psychologist reader, a recent topic from the course. This assignment has generated favorable comments from students about its learning value, and from grateful parents unaccustomed to receiving letters from their offspring. Hence, I decided to write my own summary letter for the class—a practice that has now become a last-day tradition in each of my courses.

My letters are one single-spaced page (A sample letter appears in Appendix A). I note some of the core skills or perspectives the students may have learned, and convey something of the sense of privilege and awe I experience in working with them and as a psychology teacher. I also try to pass on a few bits of advice. And I encourage them to be readers, suggesting that, if they were to read a good book each week for the rest of their lives, they could become incredibly well educated.

On the back side of the letter I list 50 books I have read, explaining that, if they decide to take my advice, the list will get them through the first year. I change the book list each semester, depending on what I have recently read and which classics I decide to add or remove. I do not intend that the book list contain the best books of all time, but that it simply reflect a diverse collection of items I consider worth reading. Although the typical list may include a few psychology-related books, I deliberately select a wide range of reading material. Thus, the list always includes novels, poetry, and nonfiction, and often a sampling of history, biography, and science. Appendix B presents a sample of some books from a recent list.

In truth, I know that most of the students will not read all the books, at least within the coming year. But I want to demonstrate a sense of the importance of the life of the mind, as well as the connection of our interest in psychology to the world of literature, history, philosophy, and the other sciences. In short, I intend to model the aims of a liberal arts education.

Other gifts. Other teachers will no doubt think of additional, perhaps better, ideas for parting gifts. I am aware, for example, of teachers who have given their classes poems. Postcards with class-related pictures or messages might also be meaningful. As electronic communications and online teaching become more commonplace, teachers engaged in distance learning will find their own ways of making first and last days memorable. B. F. Peden (personal communication, February 21, 2011), for example, has used individual end-of-semester e-mails to online students as a way of providing students feedback and perspective. I look forward to seeing the additional ideas distance learning instructors may generate.

Concluding Thoughts

I hope other teachers, especially those who might not take full advantage of the final day, will reconsider the importance of the last class meeting. I encourage this even though, in the interest of full disclosure, I must say that I have not collected data on the effects of my final day activities. In reality, I can imagine that, if these techniques have an influence on my students, that fact may not be apparent until much later. Again, I think of my own experience: I did not properly thank Miss Dunn for her influential role in my education until her centennial birthday when, in the company of my mother, I gave her flowers. And I only recently tracked down Mr. Copeland, now retired from a Pentagon job and back in the high school classroom, teaching Advanced Placement Calculus in another state. But despite the passage of time, I recall their efforts and the passion they showed for education.

I occasionally hear from a student who tells me she is working on the book list, or that he has been thinking about something I said in a letter. Although I do not mind being remembered for green ink or the elephant on a string, I think more often these days about the educational process in a holistic way. My efforts to achieve meaningful endings reflect a mindful approach to the parting perceptions that students will have, not only of me, but of psychology in particular and of learning in general. In a discussion of the aesthetics of education, Kupfer (1983) observed that learning has more meaning when it has a sense of aesthetic closure. In fact, he insisted, "Learning is aesthetic from start to finish. From the wonderment which signals the onset of inquiry to its satisfactory culmination, the educational process is delineated by aesthetic qualities and relations" (p. 38). A meaningful last day can contribute to that satisfactory culmination—for both students and instructors—and ". . .determine whether we each leave with a sense of accomplishment that prepares us to begin anew" (Lutsky, 2010, p. 343).

If we do it well, that sense of a new beginning can mean a continuing engagement with the life of the mind, including not only psychology, but the rest of life as well. Although Shakespeare's Juliet had something quite different in mind when she said it, parting really can be a kind of sweet sorrow—or at least, in the more pedantic words of a long-time teacher, the chance to have a meaningful last word.

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Appendix A
Sample Letter

Dear Friends,

Throughout the semester, you have written letters and other assignments at my request, so it only seems fair I would write at least one for you before we finish up. I'd like to start by saying you've been a pleasant group—Your attendance at class has been outstanding, you have done good quality work, and you have had a positive, congenial attitude. I couldn't ask for more than that.

I can't know, of course, what you've really gained from the course; in fact, you probably won't be too sure of that yourself, for at least a few years. I think a little distance is necessary before we can put experiences like this in context, and before we can know what we can really take away into the rest of life. I do know what I hope you may have gained, and that may surprise you just a bit. The first thing I'll say is that I know you'll forget a good share of the facts we've read and discussed this semester. Dates, names, and definitions may be among the first to go. But that doesn't really worry me. Now, you might ask, why doesn't the professor care if we forget a bunch of the facts? I don't much care, because what I hope you may be developing here is a critical, skeptical approach to science, authority, and dogma. If you become a good critical thinker, you'll be able to find or to develop your own facts; you won't be an unquestioning recipient of other people's views and beliefs; and you'll be a good judge of your own experience. So do your best to continue to develop your ability to critique, analyze, and draw reasonable conclusions. If you can do that, I'll be more than happy.

I also want to say something today about how privileged I am to have a job that allows me to work every day with bright young people like you. As you've heard me say before, they actually pay me to come here and talk about

the ideas I'd probably be talking about anyhow—Where else can you get a job like that? Abraham Maslow once talked about how moving it was, each spring at commencement at Brandeis University, to march in the commencement line with the faculty and the graduates. He could envision, he said, all the great scholars of all time marching out there somewhere ahead of him, and he knew the great scholars of the future were coming along behind him in the line. That image has always been an important one to me, and I am proud to play a role in the lives of those of you who will make up that great intellectual line that will follow me and my colleagues.

Finally, I usually try to end these little letters with two things: Some advice, and some recommended reading. If you were to read a good book a week for the rest of your life, I figure you could get in several thousand before you die. On the other side of this letter, you'll find enough to get you through the first year. These aren't necessarily great books, or the best books I've ever read, but they're good books, books I think you might benefit from reading. So give it some thought. As for advice, I used to try to be profound, but I've come to believe simple advice is probably better; so try this: Do something decent for somebody else every day; they'll feel better, and so will you. Be kind; life is too short to spend it in conflict with others, especially important people like our families. Take the time to listen to others; none of us is the center of the universe—in fact, we know that Piaget thought we should get over that by age 5 or 6. Don't forget where you come from; there are probably times when your parents seem totally out of touch, but they love you, and in your saner moments you love them. When you get to be my age, you'll realize how tenuous life can be, and how important our connections to the generations that come before and after us can be. And finally, never slam the door on your way out; the mark of an educated person is the ability to disagree without feeling threatened or insulted.

Have a wonderful semester break, and get enough sleep to be rested and to do well on your exams next week.

All the Best,

Appendix B
Abbreviated Sample Book List

- Maya Angelou, *I Know Why the Caged Bird Sings*
- Jane Austen, *Northanger Abbey*
- Bill Bryson, *A Brief History of Nearly Everything*
- Caleb Carr, *The Alienist*
- Raymond Carver, *Where I'm Calling From*
- Willa Cather, *The Professor's House*
- Billy Collins, *The Trouble With Poetry*
- Rose George, *The Big Necessity*
- Sue Halpern, *Can't Remember What I Forgot*
- Helene Hanff, *84 Charing Cross Road*
- Kent Haruf, *Plainsong*
- Steven Johnson, *The Ghost Map*
- Barbara Kingsolver, *The Poisonwood Bible*
- William Kloefkorn, *Breathing in the Fullness of Time*
- Gina Kolata, *Flu*
- Thomas Levenson, *Newton and the Counterfeiter*
- Norman Maclean, *Young Men and Fire*
- Frank McCourt, *Teacher Man*
- Ian McEwan, *Atonement*
- Alice Munro, *Runaway*
- Annie Proulx, *Postcards*
- Mary Roach, *Bonk*
- Richard Russo, *Straight Man*
- Carl Sagan, *Varieties of Scientific Experience*
- David Sedaris, *When You are Engulfed in Flames*
- Michael Shermer, *Why Darwin Matters*
- Jane Smiley, *A Thousand Acres*
- Thomas Standage, *A History of the World in Six Glasses*
- Wallace Stegner, *Crossing to Safety*
- Ann Tyler, *Breathing Lessons*
- Sarah Vowells, *The Wordy Shipmates*
- Simon Winchester, *The Professor & the Madman*

Web 2.0 Applications to Foster Student Engagement

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Engaging a technological-savvy generation of learners is a daunting challenge. Fortunately, there are a range of Web 2.0 applications that can be integrated into the classroom to foster active learning, increase student's time-on-task and promote engagement with course material. This chapter provides a framework to guide decisions about technology integration, shows instructors how to integrate Web 2.0 applications to address common instructional challenges and highlights specific examples in which Web 2.0 tools facilitate the teaching of psychology.

Web 2.0 Applications to Engage Net Gen Students

Web 2.0 applications facilitate interaction, collaboration and ease of information-sharing (http://en.wiktionary.org/wiki/Web_2.0, 2010). They are dynamic, changing and typically operate directly through the browser (sometimes called cloud computing). The interactive nature of Web 2.0 tools has led to a proliferation of economical (often free) applications available at the touch of a button. Beyond simple economics, Web 2.0 tools are particularly valuable because they generally require minimal technical knowledge or skill; so users are able to integrate and take advantage of the benefits of the technology with minimal investment of time or training. The integration of Web 2.0 tools provides an inexpensive, efficient means of integrating technology into the classroom to engage modern learners.

Student engagement goes beyond simple emphasis on learning to highlight students' active role in the educational processes (Bomia, Beluzo, Demeester, Elander, Johnson & Sheldon, 1997). Research reveals five components relevant to students' engagement at the college level: academic challenge, active/collaborative learning, student-faculty interaction, enriching education experiences and a supportive learning environment (Kenny, Kenny & Dumont, 1995). Web 2.0 applications provide instructors a means of fostering these engagement components in a manner preferred by Net Generation students (including Millennial,

Generation X and Generation Y learners). Deliberate, well-designed integration of Web 2.0 tools can encourage active learning, promote collaboration, increase student-faculty interaction and enrich the educational experience.

Net Gen (or N-Gen) students prefer efficiency, novelty and interactivity in their learning activities (Hartman, Dziuban, & Brophy-Ellison, 2007; Tapscott, 1998). They appreciate new technology and thrive on the adaptive features offered in technologically-mediated learning environments (Gee, 2007). N-Gen learners value active participation and the opportunity to choose the mode and direction of the learning activities (Barnes, Marateo & Ferris, 2007; Mabrito & Medley, 2008). Although traditional classroom activities and assessments can foster engagement, the one-on-many situation in the traditional classroom limits the ability of the instructor to tailor the learning activities to fit individual students. In contrast, Web 2.0 technologies offer novel, technologically-engaging content to maximize their individual engagement with course material (Monaco & Martin, 2007). The positive relationship between student engagement and student achievement (Guthrie & Anderson, 1999; Handelsman, Briggs, Sullivan & Towler, 2005; Skinner, Wellborn & Connell, 1990) should encourage instructors to maximize learning of the technologically-savvy, adaptive, interactive nature of Net Gen students by tapping the capabilities of Web 2.0 tools.

There are countless ways to integrate Web 2.0 tools in the classroom; selection of applications should consider a number of factors (including learning objectives, course level, student population, class size, technological access, time constraints, instructor's comfort with technology, etc). Essential to effective integration is to drive all modifications by a course need rather than simple technological novelty (Mandernach, 2006). To facilitate effective incorporation of Web 2.0 applications, we offer a sequential model of inquiry:

1. Articulate the goal or instructional challenge.
2. Identify the relevant category of tools (social networking, multimedia creation, alternative teaching tools or collaboration).

3. Select an individual tool within the category identified in Step 2.
4. Define indicators to determine outcome (success or failure) of the Web 2.0 tool to meet the goal identified in Step 1.
5. Integrate the application in the course mix.
6. Evaluate the outcomes and revise appropriately.

While some goals may be specific to an individual course, mode of instruction or student population, Web 2.0 tools also offer a means of addressing APA (2007) curriculum goals. The key is clear identification of the target goal. Once the goal has been clearly defined, there are a range of Web 2.0 applications that may address the challenge.

In the following sections, we will highlight how specific APA curriculum goals and related instructional challenges can be addressed using Web 2.0 applications. The Web 2.0 applications have been broadly classified, based upon their utility and intent, into four general categories: 1) social networking, 2) multimedia creation, 3) alternative teaching tools, and 4) collaboration or information sharing. These classifications are not mutually exclusive as many applications can be applied to meet a range of instructional uses (i.e., applications that facilitate the creation of multimedia may also be utilized as an alternative teaching tool; applications that promote collaboration are often equally valuable for social networking). The current classification is provided as a means to structure the discussion around the most common usages, but is not to imply that the Web 2.0 applications in one category would not be valuable or applicable for other uses. In addition, it is important to note that this is not a comprehensive list of all available Web 2.0 applications; this list is based upon the authors' experience, familiarity and judgment with tools that have shown value for fostering student engagement.

Within each category, we provide a table hierarchically listing the selected Web 2.0 applications ranked by perceived educational value and instructor effort required for use. The table provides the following information for each selected Web 2.0 tool: link to the application, generalized description, brief overview of ideas for classroom use, and a ranking of the value/effort ratio (ranked high, medium or low for each dimension). We determined the value/effort ratio based on our personal experiences (as an instructor and an instructional designer) with each application. Following the table, we highlight the integration of specific Web 2.0 tools to address curriculum and classroom goals.

Social Networking Applications

Social networking applications help create an active community of learners and provide a valuable resource for enhancing student participation in the learning process. Table 1 presents social networking applications that provide a forum to connect individuals based on interests, communities and/or shared activities. Instructors can use social networking applications to facilitate academic interaction with students outside of class. For example, social networking applications provide a means of sharing just-in-time content, linking lecture information to Internet resources, or responding to student questions before or after class. In addition, social networking applications efficiently promote student-to-student interaction outside the classroom; this type of interaction can enhance the collaboration on group projects or simply encourage peer learning communities. Through deliberate integration of social networking applications, instructors can facilitate learning and foster an integrated community of learners.

Web 2.0 Tool	Description	Educational Use	Value/Effort
VoiceThread http://voicethread.com	**Group conversations (using voice, text, audio file, or video) are collected and shared in one place from anywhere in the world.	Encourages active exploration of course concepts in a manner that promotes multimodal encoding; promotes active engagement with course concepts.	High/Low
Edmodo http://www.edmodo.com	**A private social platform for teachers and students to share ideas, files, events and assignments.	Limited social networking tool that allows the easy sharing and exchange of ideas without interference from marketing banners or promotional media.	High/Low

Web 2.0 Tool	Description	Educational Use	Value/Effort
Scribd http://www.scribd.com	Scribd is the largest social publishing company in the world, the Website. On Scribd, you can quickly and easily turn nearly any file—including PDF, Word, PowerPoint and Excel— into a Web document and share it with the world.	Information-sharing website that is limited to educational content; allows for the conversion of documents into HTML for ease of sharing across applications and platforms.	High/Low
Twitter http://twitter.com	Communicate key ideas quickly and efficiently by keeping them within 140 characters. Follow friends and colleagues to keep up with what they are working on.	An effective communication tool for quickly and easily delivering course content to students who respond enthusiastically	Medium/ Low
Twitcam http://twitcam.com	Twitcam posts your video description and link to Twitter for your followers. While broad-casting, chat with your viewers via Twitter. Your video is archived and displayed on the same page.	Provides a means of pushing video lecture content out to followers; an effective way to provide short, targeted micro lectures to students.	Low/Low
TwitPic http://twitpic.com	Share pictures quickly with Twitter followers.	Provides a method to send course material directly to students; materials include visual images in addition to written text.	Low/Low

The integration of social networking applications is particularly relevant to APA (2007) goal seven (communication skills). Within my classroom (particularly in larger courses), I struggle to engage all students in the class discussions. In order to address this goal and instructional challenge, I integrate VoiceThread (www.voicethread.com) as a supplement to the lecture discussions. VoiceThread allows me to post a picture, diagram or case study and have each student make an audio response to my question. Students can listen to other students and easily add their own thoughts or ideas. Through the use of VoiceThread, I increase student participation in discussions and provide a forum for on-going student-to-student interactions. In addition, VoiceThread allows me to go beyond traditional reliance on written assignments, to integrate a documented artifact that allows me to assess students' ability to orally communicate about course concepts. While other social networking applications (i.e., Edmondo or Scribd) would encourage on-going student-to-student discussion outside of class, VoiceThread has the added benefit of fostering oral communication.

Social networking tools also provide a means of addressing APA (2007) goal one (knowledge base of psychology) through increased opportunities for instruction and interaction with students. One of my ongoing challenges is balancing content coverage with limited class time. To address this issue, I have integrated Twitter (www.twitter.com) as a means of pushing information and content to students outside of class. Using Twitter, instructors can tweet (i.e., type short, under 140 character, messages that are posted on the Twitter site) about course material or the application of course material to current events. Students register to receive the instructors' messages on their cell phones, iPods or computers. In addition, instructors can easily integrate multimedia into their tweets via applications such as Twitcam or Twitpic. The value of Twitter (and its supplemental applications) lies in the repeated, short contacts between students and course material that encourages ongoing engagement beyond limited class periods.

Multimedia Creation Applications

Multimedia creation applications provide an efficient, economical means for instructors or students to create video, audio, animation and graphics. Table 2 highlights Web 2.0 applications that instructors can use to create multimedia instructional aides to facilitate learning, focus student attention or highlight key concepts. Alternatively,

instructors may utilize multimedia creation applications as a means of assessment; for example, students could create multimedia artifacts to demonstrate their knowledge of course material.

Web 2.0 Tool	Description	Educational Use	Value/ Effort
Eyejot http://www.eyejot.com	**Eyejot is the first, comprehensive, client-free online video messaging platform ideal for both personal and business communications. It offers everyone the ability to create and receive video messages in a self-contained, spam-free environment.	An easy, effective means of personalizing online teaching; allows instructors to create audio/video lectures without having to download/upload or modify for file sizes.	High/Low
Xtranormal http://www.xtranormal.com	Write, direct, and produce your own animated movie. Simply choose your characters and scene, type in what you want them to say, insert gestures, and change camera angles.	Tool for conveying basic information in a manner that is more entertaining and memorable than basic written text.	High/Low
SlideShare http://slideshare.com	**Upload and share your PowerPoint presentations, Word documents and Adobe PDF Portfolios. Share publicly or privately. Add audio to make a webinar.	Easy method for narrating PowerPoint presentations and sharing them with students.	High/Low
280 Slides http://280slides.com	**Create beautiful presentations, access them from anywhere, and share them with the world. There's no software to download and nothing to pay for – and when you're done building your presentation you can share it any way you like.	Alternative to PowerPoint shows that provides full range of multimedia integration; engaging presentation application for creation of online lectures.	High/Low
Stupeflix http://www.stupeflix.com	**Mix images, videos and soundtracks. Add titles, transitions, oohs, and ahhs. Preview your video creations instantly with Stupeflix uniquely fast rendering technology.	Tool for creating, modifying and editing multimedia pieces; good tool for students to use to create dynamic presentations or for instructors to create multimedia teaching modules.	High/Low
Empressr http://www.empressr.com	**Tell your story anyway you like. Add photos, music, video, and audio, and share it publicly or privately in an instant.	Tools for creating engaging and entertaining multimedia presentation of course material.	High/Low
Prezi http://prezi.com	A new way to present information. Create presentations using movement to transition between topics instead of flipping slides.	An alternative to PowerPoint that provides a more interactive, engaging presentation of instructional material.	High/Low
Aviary http://aviary.com	An online suite of editing tools ranging from screen capture to image, effects, and audio editing.	Tool suite that allows for the integration of audio, video and other interactive effects into an online lecture.	High/Medium
Picnik http://www.picnik.com	Online image editor that allows you to apply filters, touch up, and add stickers or text to your images.	Means of editing photos to include text descriptions, captions or other educational information that explains the relevance of the photo within the course context.	Medium/Low

Web 2.0 Tool	Description	Educational Use	Value/Effort
Scrapblog http://www.scrapblog.com	Create digital scrapbooks to share with anyone you choose.	Provides an alternative to traditional written assignments in which students can create visual "scrapbooks" of course concepts.	Medium/Low

The importance of critical thinking is highlighted by APA (2007) goal three (critical thinking skills in psychology); yet, students often rely on basic repetition and memorization strategies when learning new information with no appreciation for a more sophisticated, applied understanding of course concepts. In the past, my students wrote short paragraphs describing terminology or highlighting an application, but they reported little engagement in this activity and even less interest in actively reading the paragraphs written by their peers. To foster increased critical thinking about the meaning and application of terminology (as well as promote interest in interacting with the artifacts created by their peers), I now use Xtranormal (www.xtranormal.com) to have students create short animated movies that illustrate the application of the terminology. Xtranormal allows students to script interactions and dialogue between animated characters to create short movies with minimal technological expertise involved. Similar to other research examining the impact of student-created course materials (Armstrong, Tucker & Massad, 2009; McArthur, 2009), students reported perceived value to creating the Xtranormal movies, considerable more time on task with this assessment (compared to traditional written assessments), increased willingness to share the artifacts of their learning with their peers and view the artifacts created by other students in the class.

Aligned with APA (2007) goal four (application of psychology), the creation of multimedia supplements allows instructors to opportunity for "just in time" instruction outside of class time that promotes the application of course concepts to current events. The time lag between real-world events (including newspaper articles, television shows, current events, etc.) and scheduled class periods creates disconnect between course concepts and their application. To promote an integrated application of course concepts to current events, I use Eyejot (www.eyejot.com) as a means of providing "just in time" instruction to reach my students outside the classroom. Eyejot make short (under one minute) video clips with my webcam and automatically creates a link that I can email to students (no downloading or uploading video required). I use the Eyejot microlectures to send students brief messages throughout the week highlighting relationships between course concepts and current events.

Although I could utilize email or course management announcements to send similar information in a text format, students report increased satisfaction with the video messages and are more likely to view the video messages compared to an email message. In a similar fashion, Twitter (accompanied with Twitcam multimedia) can be used to provide deliver video messages to students outside of class. The decision between Twitter (with Twitcam) or EyeJot is dependent upon how the technology is integrated into the course mix. Twitter relies upon students subscribing to follow the tweets; so if an instructor requires the use of Twitter within the course, the most efficient means of delivering video messages to students would be via Twitter (with Twitcam). Alternatively, if Twitter is not regularly used and an instructor wants to deliver a video message to the class, EyeJot provides an efficient means of creating and distributing the video information via standard email addresses without the students having to sign-up to receive the information. From an instructional perspective, Twitter (with Twitcam) and EyeJot offer equivalent educational value for promoting "just in time" instruction, the difference lies in the strategy by which the message is delivered.

Alternative Teaching Tools

Table 3 presents alternative teaching tool applications that provide a means of interacting with course materials outside of the typical confines of a course management system or face-to-face classroom setting. While many of the alternative teaching tool applications may also be used for multimedia creation, social networking or collaboration, they have been included in this category as they provide a unique means of facilitating communication and involvement not always possible using face-to-face instruction and/or written assignments.

Web 2.0 Tool	Description	Educational Use	Value/ Effort
Creately http://creately.com	**An easy to use online diagramming application that's built for collaboration. Powerful features and an intuitive interface make it ideal for teams working together on diagrams & designs.	Provides a visual means of tracking the flow of information or concepts; an effective tool for setting up logic of literature review or experiment.	High/Low
Jing http://www.jingproject.com	Quick and easy to use screen capture utility (both images and video). Requires download and install. Free accounts allow 2 GB of online storage.	Good tool for providing detailed directions of programs or applications; allows instructors to highlight the steps required to utilize programs (such as SPSS) using visual directions.	High/Low
Screencast-O-Matic http://www.screencast-o-matic.com	**The original free and easy way to make a video recording of your screen and upload it for free hosting all from your browser with no install!	Good tool for providing detailed directions of programs or applications; allows instructors to highlight the steps required to utilize programs (such as SPSS) using visual directions.	High/Low
Edublogs http://edublogs.org	**Edublogs lets you easily create & manage student & teacher blogs, quickly customize designs and include videos, photos & podcasts - it's safe, easy and secure	Application to create dynamic multimedia blogs to share specific course concepts or generalized information about the field.	High/Low
Flashcard Machine http://www.flashcardmachine.com	**A free web application that enables users to create interactive web-based study flash cards and share them with others.	A hands-on study tool to facilitate the mastery of terminology or definition-based course material.	High/Low
Diigo http://diigo.com	Tag and bookmark pages or archive them to make them searchable forever. Highlight and add sticky notes to pages and share all your annotations with your followers. Follow others to see what they are reading.	Allows instructors to "teach" from other websites; instructional information can be annotated and attached to highlight the most valuable and relevant aspects of a webpage.	High/Low
Screenjelly http://www.screenjelly.com	**Screenjelly records your screen activity with your voice so you can spread it via Twitter or email.	An alternative to a static screenshot, provides an easy and effective means of pushing "how to" content to students.	High/Low
Voki http://www.voki.com	**Voki is a free service that allows you to create personalized speaking avatars and use them on your blog, profile, and in email messages.	Tool for conveying basic information in a manner that is more entertaining and memorable than basic written text.	High/Low

Web 2.0 Tool	Description	Educational Use	Value/ Effort
Screenpresso http://www.screenpresso.com	Quick and easy to use screen capture utility. Requires download but install is optional and does not require administrator privileges.	Good tool for providing detailed directions of programs or applications; allows instructors to highlight the steps required to utilize programs (such as SPSS) using visual directions.	High/Low
Mindjet Catalyst http://www.mindjet.com	**Teams can visually connect ideas, information and people to save time, improve processes and drive innovation – whether you are driving the sales process, managing a meeting, conducting a meeting, or simply getting organized.	A tool for organizing information (alone or in collaboration) in a manner that provides a visual overview of larger picture; great tool for establishing background literature or designing a study.	High/Medium
Visual Understanding Environment http://vue.tufts.edu	**The VUE project is focused on creating flexible tools for managing and integrating digital resources in support of teaching, learning and research. VUE provides a flexible visual environment for structuring, presenting, and sharing digital information.	Platform for easy distribution of course content without the need to upload/download or email; enhances the educational value of simple text.	High/Medium
Screenr http://screenr.com	Share screencasts quickly with Twitter followers.	Allows a one-button option for capturing your screen activity and sharing with students. Great when you need to demonstrate software (such as SPSS).	Medium/Low

Underlying APA (2007) goal two (research methods in psychology) is students' ability to understand and integrate research across various information sources. In my upper division courses, students write a literature review of a selected topic to show the relationship between existing findings. Inevitably, they write a series of short research summaries rather than integrated themes. Despite instruction to students about the necessity to formulate the literature review around themes, trends or shared findings, students find it difficult to organize the information in this fashion. To address this dilemma, I integrate Creately (www.creately.com) into the assignment guidelines. Students are required to utilize the concept mapping function of Creately to diagram a visual representation of the themes of the various studies. The diagram begins with a basic research question, and then students work collaboratively to identify the research themes that have emerged in response to the question. Each

theme becomes a node on the diagram; specific research studies are then mapped back to the themes to visually represent the relationship between the various studies. Students report that the visual nature of the mapping process makes it easier to identify themes and to organize individual studies into higher-order categories.

Inherent in both APA (2007) goal two (research methods in psychology) and goal six (information and technology literacy) is the importance of students' ability to utilize computer software for data analysis. Traditional assessments of students' data analysis lies in examining the data output rather than the process of the data analysis. Integration of Jing (www.jingproject.com) provides a means for students to create a screencast of the sequence of steps utilized to run various SPSS analyses. Instructors can require students to submit their screencasts as an assessment artifact to highlight their ability to efficiently and accurately conduct data analysis. While there are

various screencast applications (i.e., Screencast-O-Matic, Screenjelly, Screenpresso, etc), I prefer Jing for its ease of use and free online hosting of completed screencasts.

Collaboration and Information-Sharing Applications

Collaboration and information-sharing applications are designed to facilitate the ease at which students can collaborate and share material in an asynchronous format. Group activities and collaborative assignments can be completed outside of class time, freeing up limited contact time for higher order learning activities. Table 4 highlights applications that provide intuitive methods of encouraging student-to-student collaborative engagement with course material beyond scheduled class sessions.

Web 2.0 Tool	Description	Educational Use	Value/ Effort
Google Docs http://docs.google.com	Create or upload documents, spreadsheets and presentations and store them online. Share items with others and collaborate in real-time.	Tool to promote online collaboration and efficient sharing of information.	High/Low
Weebly http://education.weebly.com	**Easily create a classroom website & blog, manage your students' accounts, and accept homework assignments online	Application to create educational websites, blogs or assignment submission areas; great for having students create informational websites about a specific course concept.	High/Low
SlateBox http://www.slatebox.com	**Markup ideas on embeddable "slates" and collaborate in real-time. You can build a slate in less than 1 minute and embed it on your own blog or website in a snap.	Encourages active exploration of course concepts in a manner that promotes multimodal encoding; promotes active engagement with course concepts.	High/Low
EditGrid http://www.editgrid.com	**With majority of Excel features, EditGrid allows you to start working easily. With sharing, collaboration & publishing features, EditGrid serves a big set of use cases better than Excel. Connected to live data sources, EditGrid delivers data on demand.	Application allows for easy data analysis, data sharing and collaboration on the work on spreadsheet datasets.	High/Low
WebNotes http://www.webnotes.net	Highlight and add sticky notes to web pages. Organize pages using tags and folders. Share your notes and bookmarks with others.	Allows instructors to "teach" from other websites; instructional information can be annotated and attached to highlight the most valuable and relevant aspects of a webpage.	High/Low
Teambox http://www.teambox.com	**A place for your team in Twitter-like project collaboration tool. Share tasks, messages, files. Get notified by email. Real group collaboration for your projects!	Tool to promote online collaboration for group projects or other synchronous activity; effective for establishing personalized presence in online classroom.	High/Medium

Web 2.0 Tool	Description	Educational Use	Value/ Effort
Tokbox http://www.tokbox.com	Video chat with up to 20 people or send video messages. You can also share videos, presentations, and documents or have a normal text chat.	Tool to promote online collaboration for group projects or other synchronous activity; effective for establishing personalized presence in online classroom.	Low/Low

Collaborative learning has a well-established history in higher education; the value of collaborative learning is highlighted in APA (2007) goals seven (communication skills) and eight (sociocultural and international awareness). When I assign group projects, I work with all groups to create a Google Docs (http://docs.google.com) account to serve as a collaborative workspace. Using Google Docs, students do not have to rely on email or wait for versions of a project to be passed from one person to the next. The shared Google Docs workspace provides a convenient, collaborative environment from with all group members can efficiently access the group's materials to provide their contributions to the project. While virtually all collaborative applications provide a means of asynchronous interactions, Google Docs utilizes technology familiar to most students and requires minimal student investment to learn the technology. The value of this type of information-sharing application is the ease in fostering interactive, social learning experiences outside of scheduled class time.

As highlighted by APA goal nine (personal development), it is important to integrate strategies that encourage students to "develop insight into their own and others' behavior and mental processes." As such, I frequently integrate journaling in my courses as a means of promoting application of course concepts, self-reflection and intellectual growth; essential to this process is students' awareness of their development in these areas over the duration of a semester. To help facilitate the management of journals and to encourage students to monitor their own cognitive and interpersonal growth, I utilize Weebly (http://education.weebly.com). Weebly provides each student with a personal blog account that maintains chronological records of posts and updates. This blog serves as the student's journal throughout the course of a semester. The format and nature of the blog allows for convenient tracking of thoughts and ideas in relation to course concepts. In addition, students report that they enjoy the novelty of blogging and many have voluntarily elected to share their blog in a public forum.

Conclusions

As with all course modifications, it is important to monitor and reflect on the impact of integrating Web 2.0 applications into the course mix to determine if changes are meeting your course objectives, instructional needs or student preferences. Due to the range of factors that can impact the value of a Web 2.0 application in any given course, there are no definitive guidelines or silver-bullet applications that universally apply across all courses or settings. Rather, the potential of Web 2.0 applications is limited only by the creativity and ingenuity of each instructor.

Web 2.0 tools allow instructors to be responsive to the needs and preferences of Net Gen students in creating learning environments that are adaptive and collaborative. Through the thoughtful integration of online learning technologies, instructors can create dynamic learning interactions that tap the technological savvy of Net Gen learners to promote increased course engagement.

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Engaging Students: Issues of Cultural Privilege

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Have you ever worried that the color of your skin might work against you during a job interview or when you're trying to find place to live? Have you ever felt afraid to put your arm around or kiss your romantic partner in public because people might assault the two of you if they saw? Have you ever had to deal with unwanted sexual advances, comments, or ogling?

If you answered "no" to one or more of these questions, then you probably enjoy cultural privileges of some type, due to your demography (e.g., sex, race, or sexual orientation). The forces of cultural privilege benefit and protect those who possess them. These protections keep a person from having to experience some negative things in life that many of those in non-privileged demographic groups routinely encounter. And, these privileges that are bestowed upon individuals who possess majority culture demography are neither earned nor necessarily deserved by these individuals. They are simply imparted to those who possess the favored demography of the majority culture. In the United States, for example, if you are a male, a heterosexual, a European American (or more accurately, light skinned), you will enjoy cultural privileges and protection from negative experiences that women, gays and lesbians, and darker skinned people do not, simply because of your demography.

Most people who hold and exercise cultural privilege(s) will not know that they do so. This is because when cultural privilege has always been present in a person's life (e.g., affirmed in daily interactions, the media, in education, in the workplace) the possession of privilege simply becomes a given reality for the privilege holder. Like the air they breathe -- privilege is invisible, unasked for, unearned, and always there for them. As well, because of the stability and consistency of cultural privilege, privilege holders eventually come to believe that they are entitled to, have actually earned, and very much deserve the benefits their privilege yields. They fail to recognize that they have done nothing to earn these benefits; but rather operate as if they are responsible for personally earning all the benefits and resources they possess in their lives (e.g., financial, academic, vocational).

In fact, privilege holders may even see themselves as being victims in society (i.e., they see the world as being full of "reverse discrimination" against them). Not recognizing the privilege they possess, privilege holders believe that no one has given them anything or made their way through life easier for them. Given this, they will often resent or become upset by efforts like affirmative action, that seek to "level the playing field". Privilege holders will see social equality efforts like these simply as people in society's non-favored demographic groups as getting unearned benefits and resources that they do not deserve. It will be exceptionally difficult for privilege holders to accept the idea that social equality programs were established in the first place to offset the enormous advantages that institutional oppression and cultural privilege has provided for hundreds of years to those persons in society's favored demographic groups. As the old saying goes: "The last to notice the ocean are the fish…".

In sum, although the historical and current oppression and discrimination against particular demographic groups in US is commonly accepted as fact, many people fail to recognize that the extension of cultural privilege to favored groups has also been a long standing part of societal oppression. In this chapter, I will discuss how cultural privilege emerged, its continuing role in the oppression of culturally diverse peoples, and how it can impair our ability to engage our students. In addition, I suggest how instructors can detect and work to eradicate aspects of cultural privilege from our classrooms, so that we do not alienate our students by unwittingly reinforcing societal systems of demographic oppression and privilege.

History and Context

Historically, psychology has largely been populated with European American, male, socio-economically elite, able-bodied, Christian, heterosexual professors and students. Only recently has the demography of psychology professors and students begun to reflect those populations the discipline most serves through both its research and clinical activities (see Mulvey & Kohout, 2010;

Kohout & Wicherski, 2010). In addition, psychology has only begun to understand how overlooking cultural diversity affects the (in)ability of its theories, research, and practices to accurately explain the human experience. To address this gap, scholarship concerning the psychology of oppression (racism, sexism, heterosexism, amongst others) now finds acceptance and credibility among mainstream researchers and scientific publications in psychology. The emergence of several scientific journals, operated by the American Psychological Association and its Divisions and Societies, that are focused on research concerning racial/ethnic diversity, sexual orientation issues, and the psychology of women are evidence of this growth and awareness.

Teachers of psychology also recognize that they cannot present course content in a cultural vacuum, and must begin recognizing that most of the content they teach represents only the experience and perspectives of the most privileged groups in society (Prieto, Whittlesey, Herbert, Ocampo, Schomburg, & So, 2009). Similarly, because of broad demographic shifts in the higher education student body in psychology (Mulvey & Kohout, 2010) psychology teachers also recognize that they cannot assume their students belong to one homogenous cultural group possessing a common worldview, epistemological perspective, or identity. Psychology educators' increased awareness of the importance of cultural diversity has also led them to being addressing the neglected social injustice of cultural privilege.

Cultural Privilege

Cultural privilege, as a social phenomenon, is a strong force in US society and education, that protects and advantages certain classes of people. Privilege allows people with a particular demography to acquire precious resources, and protects privileged people from having to experience certain hardships or obstacles common to the experience of those persons without cultural privilege.

Dr. Peggy Macintosh (1988), a scholar and director of the Women's Center at Wellesley College, wrote an early essay on one form of cultural privilege, White Privilege. This concept concerns the privileges that come from having light skin in the US society. Ironically, it was Macintosh's study of sexism and male privilege led her to recognize the privileges she held in US society as a European American woman. Her essay, a brief explanation of the concept and simple list of privileges held by those of her racial group, sparked an entire field of study concerning cultural privilege.

As an aside, to illustrate the concept of cultural privilege, as it exists even within the scholarship of cultural privilege, it is telling to point out that it took a European American woman, a professor at an elite Ivy League college, to make credible to mainstream scholars the idea of cultural privilege when many scholars of color (cf. the works of W. E. B. DuBois -- himself a Harvard graduate) had nearly 100 years ago already written about cultural privilege and recognized it existence since the colonial days in the US.

In *Unpacking the Invisible Knapsack*, Macintosh (1988) asserted that: "I had been taught about racism as something that puts others at a disadvantage, but had been taught not to see one of its corollary aspects, white privilege, which puts me at an advantage." She further pointed out "…Whites are taught to think of their lives as morally neutral, normative, and average, and also ideal, so that when we work to benefit others, this is seen as work that will allow 'them' to be more like 'us'."

Macintosh (1988) exposes the foundations of cultural privilege; that is, those that possess the preferred demographic enjoy an unearned position against which those with all other demography are judged. In addition, cultural privilege is "invisible." That is, it is not recognized by those who possess it because it is as conferred without any effort on their part. To a privilege holder, the benefits that come from cultural privilege are not seen as benefits—they are seen as "the norm" -- privilege holders presume these same benefits have been conferred upon all. Thus, when those who are members of non-privileged groups do not acquire or are seen not to possess these benefits, the attribution made by privilege holders is that these non-privileged folks, through some fault of their own, were not capable or motivated enough to earn them.

For example, when children of color do not succeed academically on par with European American children, these children of color are often seen as simply not possessing the native intelligence or motivation needed to succeed in the way their White counterparts have. Important variables that contribute to the academic difficulties of some children of color are never considered as contributing factors. These variables include significant differences between European Americans and Americans of color in the number of homes owned in middle or upper class school districts where enhanced school resources are present and higher teacher salaries are paid. Another variable concerns the ability of parents to acquire jobs that offer health insurance and comprehensive pre-peri-post-natal developmental care of their children. Such preventative and supportive medical care enhances the health and school achievement of children. The acquisition of these kinds of jobs is

disproportionately skewed in favor of particular demographic groups in our society. Furthermore, to make the cycle of oppression and privilege turn full circle, the acquisition of such jobs are highly contingent upon possessing a higher education degree. So, the disproportionate lack of these jobs going to persons of color is directly related to their poorer academic performance in elementary and secondary school, which then limits options for them later earning a higher education degree and providing a better future for their children.

Legal forms of privilege

Institutional and societal oppression simultaneously disadvantages certain demographic or cultural groups and *advantages* other demographic or cultural groups. This dual effect, in the long run, places and maintains economic, political and legal power in the hands of people primarily from a particular demographic class.

Oppressive societal practices, made legitimate by law, have been promulgated predominately by European American, male, socio-economically elite, able-bodied, Christian/Protestant, heterosexual leaders. For example, laws legalizing slavery, laws prohibiting women and people of color from voting, laws preventing same-sex marriage, laws preventing immigration, and laws restricting social welfare programs have all had a long history and presence in US jurisprudence. Only through great social resistance were these laws repealed in order to restore basic civil rights to culturally diverse persons. Such laws make it easy to oppress non-favored groups and to provide better access to desired (and often precious or limited in supply) social resources for favored groups.

Other laws, rather than directly oppressing culturally diverse people, have instead sought to advantage those people that belong to the preferred demographic group. For example, "English Only" legislation legalizes European American (White) cultural privilege (Padilla, Chen, Lindhom, Duran, Hakuta, Lambert, & Tucker, 1991). Generally, English Only laws endorse English as the official state or national language. Such laws usually require official government business to be conducted only in English and forbids the use of other languages spoken by US citizens for this purpose. English Only legislation disenfranchises those who do not speak English well enough to understand laws, policies or documents arising from governmental agencies (e.g., election ballots, legal warrants). English Only laws also often seek to prevent K-12 educational institutions, funded by state or federal funds, from utilizing bi-lingual education for their students.

Cultural privilege in the classroom

Various forms of privilege and the exercise of them in the classroom can vary for students by setting, demography, and individual awareness. Boysen and Vogel (2009) surveyed more than 300 university instructors who identified several kinds of cultural oppression (e.g., sexism, racism, heterosexism) exercised and voiced in the classroom by students. Obviously, these findings reveal the presence of cultural privilege as the exercise of oppressive perspectives and cultural privilege go hand in hand.

Bias and privilege in instructional materials

In addition to vocalized or behavioral biases expressed by students in the classroom, scholars have also found that many educational materials are biased against culturally diverse peoples. For example, textbooks often fail to have proportionate representation of women (Campbell & Schram, 1995), people of color (Hampton, 1999), and lesbian and gay persons (Schanz, 2006) and often portray these culturally diverse groups in stereotypical ways. Hampton found many psychology texts were written primarily for a European American readers, reinforcing the idea that people of color psychologically deviate from a European American normative standard. Schanz (2006) found introductory psychology texts were highly biased against homosexuals, and also overlooked the inclusion of historically important gay and lesbian psychologists. Schanz also noted a general absence of psychological topics and issues important to gay and lesbian populations in these texts.

Bias and privilege in teacher behaviors

Rosenbloom and Way (2004) report that African American and Latino students in their sample reported clear acts of discrimination perpetrated by their classroom instructors. These acts consisted chiefly of teachers making negative comments about the students or having lower expectations of their academic ability. Interestingly, students also reported a bias against Asian students in that teachers tended to give them higher grades and had higher expectations of them than the European American students or other students of color. Unfortunately, Brandon (2003) has asserted that anti-racist training alone has not altered biases in the classroom environment. She states that all instructors need to acknowledge their demography and the assumptions that can flow from their majority culture perspectives. In the classroom, such assumptions include the idea that all students have worldviews that coincide with those of European American culture, that all students will identify with a

heterosexual perspective (Long & Serovich, 2003), or that typical educational language and pedagogical behaviors apply to all students regardless of their demography. For example, some teachers may frequently use sports analogies to convey knowledge or principles of learning, and fail to account for the fact that this base of reference is not relevant for many students.

What kinds of cultural privilege can affect student engagement?

Some types of cultural privilege that may affect student engagement include: Male Privilege, White Privilege, Straight Privilege, and Socio-economic Privilege. I will highlight examples of these cultural privileges and the ways in which they can affect students.

Male privilege

Deutch (1996, http:oldosca.csr.oberlin.edu/copao /WSMI/Week201/DeutschMalePrivilegeChecklist.do c), identified how men in US society, regardless of the other demography they may possess, enjoy cultural privilege. Male privilege is a direct offshoot of sexism, and allows for males to be exempt from certain stereotypes and discriminatory actions applied to women.

*If men fail in their job, this won't be seen as a black mark against their sex.

*Elected officials are mostly men; the more powerful the position, the more this is true.

*Men are not taught to fear walking alone after dark in public spaces.

*Boys get more teacher attention than girls who raise their hands just as often.

White Privilege

Macintosh (1988) noted several advantages and privileges that European American persons in the US have, that people of color do not enjoy. White privilege is an offshoot of racism, and allows for European Americans to be exempt from certain stereotypes and discriminatory actions applied to people of color.

*When European Americans are told about their national heritage or about civilization, they are shown that people of their color made it what it is now.

*European American children will be given curricular materials that testify to the existence of their race.

*The teachers of European American children will tolerate them if they fit school norms; parents' chief worries about European American children do

not concern teachers' attitudes toward their children's race.

*European Americans can easily find academic courses and institutions that give attention only to people of their race.

Straight Privilege

A number of straight-identified students at Earlham College (nd., http://www.cs.earlham.edu/~hyrax/ personal/ files/student_res/straightprivilege.htm) noted several advantages and privileges that heterosexual persons in the US have, that persons of other sexual orientations do not enjoy.

*I do not have to worry about telling my classmates about my sexuality. It is assumed I am a heterosexual.

*I can go home from most meetings, classes, and conversations without feeling excluded, fearful, attacked, isolated, outnumbered, unheard, held at a distance, stereotyped or feared because of my sexual orientation.

*I am guaranteed to find sex education literature for people with my sexual orientation.

*I can be open about my sexual orientation without worrying about my job.

Socio-economic privilege

John Scalizi (2005, http://whatever.scalzi. com/2005/09/03/ being-poor/), a reporter from the Chicago Tribune, published a column entitled "*Being Poor*" in which he noted several disadvantages in daily life that indigent persons in the US deal with, that financially privileged persons of middle class or higher socio-economic status usually do not have to consider.

*Being poor is avoiding your friends in the school lunch line so they won't hear you say "I get free lunch" when you get to the cashier.

*Being poor is feeling the glued soles tear off your supermarket shoes when you run around the playground.

*Being poor is your kid's school being the one with the 15-year-old textbooks and no air conditioning.

*Being poor is your kid's teacher assuming you don't have any books in your home.

How can these cultural privileges disengage students?

Educators, administrators, and those who provide materials and resources to educational institutions and students (e.g., book publishers, food service entities, decor designers, transportation entities), often presume students all subscribe to a

universal worldview. Invariably, this "universalist" position equates to an affirmation of the US majority culture demography perspective. This kind of thinking isolates, silences, disaffirms, and demeans those students who have a cultural position and worldview different than that espoused by the European American, male-dominated, heterosexual, middle class majority culture.

The failure of educators to realize that students are a very heterogeneous group is the chief way in which students can be brought to disengage from their learning. Instructors must realize that they, as well as many students, enjoy cultural privileges while other students have histories of being oppressed in US society. These differences in students' personal and cultural histories, experiences, and worldviews not only must be recognized by instructors, but also affirmed and legitimized as forces that affect teaching and learning. In addition, instructors must also take responsibility for educating students about the fact that this cultural heterogeneity exists among their classroom peers. An instructor can attempt to be as personally sensitive and inclusive as possible, but she too will run into the problem of student disengagement, unless she can create a classroom environment among students that respects and affirms cultural differences. Students who interact and make judgments from a perspective of privilege often can isolate, silence, disaffirm, and demean their peers even more harshly than an instructor. Instructors need to learn to help students negotiate the differing experiences among themselves, and how to place these within accurate historical and socio-political contexts that help to affirm for students the reality of how two very different worldviews can exist within the same environment.

In addition, when educators and students who possess privileged demography fail to recognize their cultural privilege, this precludes them from seeing that disadvantaged students *do not choose* to experience the hardships they experience in their current or past daily life. Disadvantaged students encounter these difficulties specifically *because* they do not possess the benefits and protections afforded by the cultural privilege held by those with favored demography. Students who feel as if they are being individually blamed or held as responsible for the outcomes or effects of societal oppressions over which they had no power and could not individually navigate around, will definitely disengage themselves from a learning environment that fosters such a harsh and distorted view of them. Students who hail from poor families that had no history or experience with middle class or higher education cultures, or students who came from poor quality schools that underprepared them for traditional academics will not

appreciate being stereotyped or thought of as being to blame for the cultural experiences or knowledge others believe they lack. Instead, educators and students alike must accept the understanding that students from non-majority cultures have not grown up in cultural contexts that are *deficit*, they are simply *different* (Sue & Sue, 2007). And, cultures that are not only different, but cultures that have lived within a US society where they have been forced to adapt to the oppression, lack of privilege, and very real socio-politico-economic deficits foisted upon them by the demographic majority culture in power!

Finally, culturally privileged educators and students will often fail to realize that the notion of meritocracy does not account for what they have achieved in their daily lives. As aforementioned, privilege holders often believe that they alone are responsible for their position, accomplishments and fate. This denial of privilege allows privilege holders to believe that only their own individual hard work, skill, and talent has brought their success. They believe that they live in a society that offers a level playing field to all and fairly rewards effort. Obviously, nothing could be farther from the truth. Many privilege holders owe their individual successes to both their familial ancestors (who also likely belonged to privileged demographic groups) as well as to the benefits and gains that privileged people have garnered from the societal oppression of peoples from non-favored demographic groups. In fact, Robert Jensen (1998), a writer in the area of cultural privilege, has noted that the greatest cultural privilege is to deny that one has cultural privilege!

Conversely, students from non-privileged groups often have already seen their ancestors, relatives, parents (or themselves) put forth as much effort, with as much skill, as any member of a privileged group, but still not receive the same benefits or rewards that those in the privileged groups have. For those in non-favored demographic groups, they often fully realize that meritocracy is an illusion, that hard work and skill often go unrewarded, and that even despite great efforts, one can still not only *not* get ahead, but continue to experience discrimination and setbacks. Helping students from such disparate worldviews and experiences bridge their beliefs and appreciate the presence of privilege for some but not others, will go a long way to helping all students remain engaged in what they have to learn from each other.

In sum, when privileged perspectives are voiced by students, this can set up a contentious dynamic in the classroom environment. However, the situation becomes worse if instructors affirm students' culturally privileged perspectives. Such an instructor will almost certainly bring any culturally diverse student in that classroom to doubt her credibility and

cultural sensitivity. And, after having faced *dozens* of teachers just like this one in their past, most culturally diverse students will disengage from the instructor and their classmates. And, they will often not try to disabuse their instructors or classmates of their ignorance, as they have learned from past experiences that this is often a futile task! Most disheartening, if the insensitive and unaware teacher affirms students' culturally privileged perspectives, the majority culture students will also disengage — not from the learning at hand, *but from seeing the need to understand the legitimacy and reality of the real life experiences of many culturally diverse students and how it differs from their own!*

Privileged students will take their cue from the privileged teacher that the lived experience of people who are in culturally diverse groups is a sham, a cry based on "sour grapes", a self-serving lie to get benefits and merits without fully earning them on their own (the way the privileged students mistakenly believe they have). Privileged students will take their cue from the privileged teacher that everything one has received, one has earned fully on one's own merits. And, the instructor would have succeeded in teaching terrible and socially divisive lessons—that there is no such thing as cultural privilege; that we all compete on a level playing field; and, that talent and skill are rewarded in a fair and just manner regardless of demography.

An object lesson in cultural privilege

Nationally renowned white privilege scholar and author Tim Wise, provides an excellent example of cultural privilege in education. Wise (2003) discussed the reverse discrimination suit filed against the University of Michigan law school for its affirmative action on student applications (http://www.zcommunications.org/whites-swim-in-racial-preference-by-tim-wise). In his critique of the lawsuit, Wise exposes the hypocrisy of then US President George W. Bush who condemned the practice of awarding 20 (out of a possible 150) points to applicants for being members of non-European American racial groups. President Bush decried this practice as racial bias and reverse discrimination against Whites. Wise points out sardonically Bush's inability to see his own cultural privilege in gaining admission to college and graduate school as a member of the "mediocre rich". Bush himself was admitted into Ivy League schools despite his substandard academic credentials and largely because of his family legacy and his father's direct intervention (President George H. W. Bush). Bush's comments, as a President of the United States, indicate the difficulty for European Americans, in general, to grasp the profound extent to which cultural privilege still operates in US society.

Wise noted that although the admissions procedure at the University of Michigan law school does award 20 points to under-represented racial groups, it also awards points to several groups that are largely composed of White applicants. For example, 20 points goes to applicants from low-income families provided they are *not* also racially diverse. As well, 16 points are awarded to applicants who live in the Upper Peninsula area of Michigan, an area with an essentially all White population. Ten points go to students who graduated from highly rated high schools. Eight points go to students who take a rigorous AP and honors curriculum in high school. White dominated schools offer AP exams and honors curricula AP exams three times more often than schools dominated by students of color. Finally, an additional 4 points is given to those applicants who had a parent who attended the University of Michigan, a school that graduates largely European American students.

Although not called "White preference" points, Wise notes that 58 out of the 150 points awarded (more than one-third) are earmarked for European Americans who apply to the Michigan law school. But, because these are points are not "race-based", they are not seen by Whites as a way in which socio-economic, geographic, and historical white privilege have enabled European American applicants to have greater access to the resource of higher education at the University of Michigan. And, these privileges are given to Whites simply because they are born to White parents who have had the resources (usually through *their* parents cultural privileges) to attend college and law school at the University of Michigan.

This is one example in which cultural privilege begets cultural privilege until it simply seems like the norm. Obviously, privilege holders did not chose their parents, they did not buy the houses or choose the neighborhoods they lived in as children, they did not choose the K-12 schools they attended, nor where their parents went to college! Nonetheless, White privilege holders who apply to Michigan law school will take those unearned 58 admissions points earmarked for them without a second thought, yet still complain that 20 points given to a non-European group represents reverse discrimination!

For the culturally diverse student in the classroom (or application pool), instances like these are clear occurrences of cultural privilege. For privilege holders in the classroom, these cultural benefits are simply their "birthright" and they view those culturally diverse students that cry foul as simply wanting something for nothing. Ironically, this exactly describes the reality of how the benefits

of privilege holders were acquired—something they got for nothing.

What can be done to offset cultural privilege?

1. *The teacher must strive to be aware of and openly expose to students her/his own elements of cultural privilege*. As a middle class, Latino, male heterosexual, I need to work constantly examine the ways in which I let my privilege as a male, middle-class person, or heterosexual make me think, speak, feel or act in ways that might isolate, silence, disaffirm, and demean those students who have a cultural position and view different than my own. For example, I consciously avoid presuming that everyone in class will identify with and understand a sports analogy or mechanical analogy when I teach. I use gender-neutral activities or use activities as examples that represent both traditional male and female domains. I do not presume everyone is a heterosexual in my class and avoid examples of relationship issues that occur only between men and women or are set solely within a heterosexual context (i.e., "You know when men and women go on a first date and they tend to..). Instead, I use examples common to both straight and gay orientations, or if I cannot do so, find another way to convey my point.

2. *The teacher must make a concerted effort to offset the limitations of biased and privilege reinforcing educational resources and environments*. Many textbooks often do not feature women, gay/lesbian, or scholars of color even though these individuals have made significant contributions to every field of human endeavor. So, I search for texts or readings that feature persons from both sexes and the range of sexual orientations so that there is both an awareness and more comprehensive balance in the people students learn are important in an area. I also seek out specialty videos and other materials that broadly illustrate points relevant to women, people of color, as well as persons from different sexual orientations.

3. *Teachers must encourage students, through relevant activities and self-exploration, to gain an awareness of their cultural privileges*. Many exercises and readings can help students to gain an awareness of their own cultural privileges. For example, a public domain video "*White Privilege: What's That?*" is an excellent resource to use with students (Renfrow, 2006). This video shows interviews with college students, conducted by college students, on the topic of white privilege. The film sparks discussion in the classroom about white privilege in a way that places the focus on what was said by students in the film, which is less threatening to students than vocalizing and defending their personal positions and merits of their own thinking. As well, a text entitled "*White privilege: Essential readings on the other side of racism* (2nd ed.)" by Paula Rothenberg (2007) provides chapters written by several prominent scholars on various elements of white privilege. Instructors have a choice as to how they can employ this resource. They can read these chapters themselves as a way to prepare and guide class discussions, or assign chapters for students to read as part of the course content.

Conclusions

Student engagement is more than knowing how to draw students into the topics of learning at hand. I believe it is first and foremost about *avoiding* ways in which we can lose them before we even get our learning activities off the ground! Avoiding racist, sexist, homophobic, or classist remarks or behaviors is simply not enough. Instructors must themselves also know how to recognize, disavow and teach students to eradicate cultural privileges. We can succeed at this only through an open acknowledgement of the existence of cultural privileges and a frank exposure of how various privileges have historically, and are currently, in operation in our society. Instructors need to demonstrate how these privileges operate cognitively, emotionally, behaviorally and socially in the classroom, in how we teach and even in how we learn.

Educators also need to challenge students to consider and openly discuss how these cultural privileges negatively affect both the privilege holders as well as those that suffer from oppression. In this way, educators can make an effort to break the cycle of privilege begetting privilege, and halt the continuance of a skewed worldview built on cultural privilege. Through disavowing cultural privilege, and conversely, through using the cultural privileges we do possess to benefit others, we can decrease the schisms between cultures, and better engage students in learning. In turn, this helps us to better understand one another and our mutually lived cultural experiences. When we engage students in a way that has waylaid cultural privilege, we have engaged a pedagogical and social power to move us all forward in creating a more just society.

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Academic Engagement for the Benefit of All: Practical Strategies for Incorporating Non Gender Normative Students

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Student engagement has been operationally defined as having at least two key components (Kuh, Kinzie, Buckley, Bridges, & Hayek, 2007). First, the engaged student will show evidence of time and effort spent in the pursuit of educational activities. Second, the institution has a part to play in providing effective and sustained support for those educational activities. It is, of course, hoped that not only will each student desire to be engaged in learning but that the institution will also offer support that allows for this kind of universal engagement. However, students and institutions alike must balance many responsibilities, some of which may conflict at times. One purpose of this chapter is to highlight some of the unique responsibilities and challenges may confront college students in the LGBT (lesbian, gay, bisexual and transgendered) community. The second purpose of this chapter is to offer instructors of psychology practical tools to support LGBT students, increase their full engagement with educational opportunities. These tools will address the challenges that occur when instructors and students interact at the campus level, classroom level and personal level.

Potential Barriers to LGBT Student Inclusion

Although diversity on campus is associated with positive learning outcomes (Locks, Hurtado, Bowman, & Oseguera, 2008), not all definitions of diversity include students that are gender nonconforming. Potentially students with this social status can experience additional levels of anxiety of which instructors may be unaware (Engelken, 1998; Lopez & Chism, 1993). Particularly for LGB students, the stigmatized status operates invisibly (Pachankis, 2007). The management of this hidden stigma requires attention and cognitive resources that may interfere with the engagement of the student. Students that are both new to the college and have an evolving sense of identity to decide who is safe to come out to and in what capacity (Manilowitz, 1995). As instructors of psychology, there is a unique opportunity, and potentially a responsibility, to support students that identify as members of the LGBT community. The sense of inclusion with the campus community, which will by extension allow for student engagement, can be fostered by instructors in many concrete ways.

Inclusion at the Campus Level

Knowing the Campus Climate

LGBT individuals and allies have some resources available to assess how welcoming campuses may be. One comprehensive resource is the Campus Climate Index (2009), which rates school support on the available programs and resources for LGBT students. This index reports a wide range of campus features, from LGBT classes to gender neutral housing. The information about the capacity to accommodate transgendered students is timely and may be more needed that previously assumed (Tilsley, 2010). For faculty members, it becomes possible to use this index to assess what resources are available on their home campuses, and what peer institutions offer. Clearly, the direct impact that a faculty member can have on the climate as a whole can vary widely. If possible, one could support initiatives to offer gender neutral bathroom facilities or even call for such an initiative. In any case, it can be useful to know as much as the students do about the local perceptions of support for LGBT issues and people.

Appreciating how Psychology is Unique

Because psychology is about people, students and instructors may not opt to ignore topics that reference one's stigmatized status. Related topics can come up in classes from introductory courses to advanced seminars in neuroscience, whether because they are purposefully incorporated or because a curious student inquires. In some cases, perhaps because one teaches Psychology of Gender or Social Psychology, an instructor may be targeted as a sort of expert in residence, especially at some smaller

institutions. It is important to understand the potential for these additional responsibilities as an instructor. Some planning and thoughtful effort will be appreciated more than you may realize by the LGBT students in your classroom.

Inclusion in the Classroom

Syllabus as the First Step

The importance of the syllabus as an introduction to the course as well as to the instructor cannot be underestimated. It establishes the topics and the kind of conduct that is expected. For transgendered students, this indicates that the instructor is open to discussion about preferred names and pronouns in class (Case, Stewart, & Tittsworth, 2009). This is a place for one to emphasize the safety of the class for personal expression, for example, including statements that indicate students should express whatever opinion they support in response to essay or test prompts. However, students are also warned that they will be graded on how well they articulate and document the support for that opinion. Personally, I ask that they not mimic what they perceive to be my opinions. I have no expectations that they should conform to my beliefs or I to theirs. We have the mutual goal of understanding the science of studying human behavior, gendered or otherwise. Because of this, the empirically based conclusions are the closest we can get to an unbiased version of the truth. Of course, your statement may set a different tone but including it in the syllabus is the first and best chance to get the entire class to pay attention at the same time.

Understand the Composition of Your Classes

Past research has shown that straight students have an interest in learning more about LGBT issues and concerns. They express interest in knowing more about the personal experiences of gay and lesbian individuals, such as how children would be raised in a nontraditional household (McCord & Herzog, 1991), and information about sexual orientation (Waterman, Reid, Garfield, & Hoy, 2001). These findings, along with anecdotal evidence of the popularity for courses that have significant gender based content, highlight the broad based interest in these topics. However, if one wants to engage all students while including LGBT students, it can be important to appreciate the general feelings about LGBT issues in a given class. This does not have to mean that if you feel you have a conservative group of students you should avoid certain topics. It does mean accounting for the myriad opinions in any given classroom. A critical mistake I made was to assume that students taking a course in the

psychology of gender would hold a uniformly socially liberal point of view. Essentially, I had overlooked the "bubble" one can live in while interacting almost exclusively with like minded people all day. I had thought the information in my course would be old news to my students, and I would not have to discuss "basics" such as the difference between *sex* (biological and physiologically based) and *gender* (psychologically and societally based). The first set of papers, regarding a gender related personal experience, revealed the full range of their opinions and beliefs. Now, I make a point of establishing a "bubble" of my own in the classroom. I point out from the very first day that this class is a unique opportunity for people from different life experiences to meet on neutral territory.

Forewarned is Forearmed

Part of respecting the comfort levels of all the students in a class understands that it can often be better to anticipate rather than react. For example, before a class discussion about the science of sexual orientation, an instructor might announce the upcoming topic verbally and in writing. As for LGBT issues, I will warn students when portions of a documentary may be unsettling or provoke emotion for any of the students present. For example, I incorporate *Southern Comfort*, a documentary on the life and untimely death of Robert Eads. Robert is a female to male transgendered person who ultimately dies of cancer. During the screening of the documentary, I notify the students about a brief scene with physical intimacy between Robert and his significant other, Lola. The display itself would be judged as tame if the participants for gender conforming but the awareness of the identities of the pair can be jarring for some students. I strive to acknowledge the potential awkwardness as a way of allowing students who may feel uncomfortable with the situation some form of permission to approach this reaction and not feel judged for it. Additionally, I have offered some of my transgendered students the opportunity to be absent from class on the days that we discuss the film and to watch the film in an alternate location. This can give the transgendered student an opportunity to avoid unnecessary scrutiny during the discussion and privacy during the emotional portions of the film.

Student/Peer Generated Rules for Conduct

One way for an instructor to discover the general tone is to have the students create class rules on the first day of class. Getting the class into small groups to come up with 8-10 guidelines for in class behavior serves several purposes. This icebreaker allows the

students to express what is important to them regarding classroom behavior. Thus, rather than the instructor dictating respectful behavior, students recognize that respect is paramount to many among them. This is also a way of setting the ground rules for class discussions, which have the potential to become heated given the sometimes sensitive nature of gender related topics. Students have provided input on whether they want the instructor to call on people who raise their hands or if they would rather speak more informally. These kinds of rule choices can then give the instructor some insight into the general needs of and the personality of a particular class. For example, one rule I often ask my classes to consider is the extent to which "blue language" is permitted. Typically, one section will be fine with the occasional use of colorful slang (sometimes part of sexually related topics) and other sections will be more comfortable with academic terms all the time.

Gender Inclusive Language

Psychologists have been advised to limit gendered pronouns in their writing for several decades (American Psychological Association, 2010). In the LGBT community, this kind of inclusivity can take on a significant importance. Using a gender specific pronoun in reference to people labels them according to how one sees them fitting in with the societal expectations of gender expression. This third person label may or may not match up with the self made identification along the gender continuum of the student. In my own teaching, I have had to adjust my idiosyncratic means of calling on students in class. I had used "sir" or "ma'am" as a way of calling on students for years. It was not until I had a gender nonconforming student in my class (and stumbled on which to use in class) that I realized the hidden assumptions in my choice of words.

With increasing numbers of students coming out as transgendered and/or transsexual before or during their college years, campuses need to be ready for their presence before they arrive. Universities are working to incorporate these students into a system that does not easily adapt to systematic change (Tilsley, 2010). For transgender students, this can mean changing the name on the email address or official documents and rosters. Because rosters and emails are often the first contact a student has with an instructor, knowing the student's preferred name is important. Otherwise, the student must come out to each instructor every semester. In this way, transgendered students must explain themselves in ways that are not expected from others (O'Brien, 1998). Once a student does come out, it may then be possible to inquire as to a preference in gendered pronouns. The student may ask that the pronoun match with the gender expression or gender neutral pronouns may be preferred, such as *ze, co, phe* or *thon* (See Baron, 1986 for a history).

Preference for Nonfiction Representations of Gender

Because students already have preconceived notions about LGBT issues, I avoid fiction films in my classes for several reasons. I use very specific documentaries (e.g., *Southern Comfort, Blossoms of Fire, Great Happiness Space*) that allow the members of the documented communities the opportunities to speak for themselves. I also avoid fictionalized stories of true events (e.g., *Boys Don't Cry*) because they are far removed from the original events and thus easily dismissed by students. People who do not adhere to gender norms are often a distant reality for majority students. They do not need an additional third person representation of these populations. As always, the precise goals for each course and group of students will vary. It is within the power of the individual use your understanding of them to know what kind of film or experience will support the goals of the course.

Soliciting and Supporting Student Experiences

Writing assignments in psychology offer students a chance to report on what they thought to be the truth before an in class experience. An additional objective may be for them to compare and contrast that previous truth with newly gained information. These kinds of assignments do require students to engage in a bit of introspection and should be treated with respect, as described above. However, it can also very rewarding, for the student's academic and personal growth as well as for the instructor, to allow students the space to explore gender based ideas outside of the traditional written format. For me, this has developed into extra credit assignments, capped at a certain percentage of the final grade, making it a relatively low risk assignment. I only allow an essay as a last resort and ask for something more creative, such as posters, poetry, animated films and in class skits. This can lead to improved student engagement because students would engage with the course material in a way that is meaningful to them. In addition, it can be important to create and share the grading rubric for writing assignments that might include student opinions or personal stories. This allows the student to see that the instructor values the quality of the writing and reasoning of the paper. This can be important because it offers space for the instructor to grade a paper on its merits rather than being swayed by the emotional component of a paper. A student may discuss a personal instance of

prejudice in a passionate way but if they fail to connect that experience back to the concepts in the course, it will not be a successful paper. The structured feedback and prescribed scoring system can help avoid the situation where students feel their personal experience has been judged as a failure. Alternatively, this kind of assessment structure can also allow an instructor to avoid awarding a lower "reactionary" grade to a student that expresses opinions that are not in line with, or may even hurt or anger, the instructor.

Inclusion beyond the Classroom

Instructor as Example

If an instructor is not a member of the LGBT community (although many socially aware groups recognize the importance of the straight ally as a member), one may not be entirely aware of their own privilege. For example, I may discuss my marriage without fear of the opinion of my students or colleagues. I had been aware of the additional work I might have to do to secure the trust of my LGBT students because I have not had to face the same kind of challenges that they have. But, I do not have the additional burden of wondering if I have a responsibility to "come out" to my students, despite potential professional repercussions. It is also understood that not all instructors are comfortable using their own lives as teachable moments. I find it difficult not sharing in these kinds of classes because I depend on the students to share and make connections between the topics and their personal lives. Thus, it would be unfair to expect the student to do all of the sharing without some form of reciprocation. This does preclude over sharing or sharing details that are too personal and might make all of the students uncomfortable. However, I do make a point to reference same sex couples, either in the media or unnamed personal acquaintances, to normalize these relationships.

Understand Your Own Comfort Levels

Some instructors of psychology have chosen gender related issues as areas of teaching and research interest and some teach these classes or topics as a matter of service. No matter your reason, it is important to respect your own comfort with different topics while not imposing your opinions on students. However, in acknowledging privilege that comes from majority status, neither instructor nor student should ever feel responsible for speaking for an entire community. Additionally, if students seek you out to talk about their personal experiences, you do not *have* to go into deep discussion with them. Have your own list of resources that meets their needs but honors your own comfort level and belief system.

Honor and Respect Shared Information

Students may share a variety of personal details during classes that deal with topics related to LGBT and gender. This sharing may come during a class discussion, via email or in the body of a paper. More often than not, office hours are the place where the most sensitive admissions are made. In truth, I have heard occasional comments from instructors who are distressed at the potential responsibility in being included in a private part of students' lives. However, because of the public nature of a faculty position, we often become the touchstone for students that may be struggling with how to socially express what is still a derided status in many communities. For some, as instructors that candidly profess on these gender related topics, we become perhaps the only understanding adult in the lives of these young people. In reality, the most that any of these students seek a sounding board. They are looking for a place they can be comfortable. And they could be looking to your expertise for an understanding of their own situation. Beyond the legal and ethical issues that go with reporting students who indicate symptoms of distress, it is important to not underestimate the bravery it took for this student to talk to you in an open way. It is an honor to be trusted in this way by a student and allows a focus on for their overall academic achievement. The simple act of sharing this information may help them to return their focus to their studies in a more relaxed way.

Acknowledge the Emotional Component

As much as one might like to proclaim that we should all maintain a suitable academic distance from our students and our topics, when one deals with people the emotional component needs to be accepted. However you deal with that component is up to you but acknowledging its existence is a key first step to connecting with LGBT students, thereby increasing their inclusion and the possibility of their full engagement with learning.

Conclusion

Meeting the needs of a relatively small group of students can both remove barriers to success for the few but also serve as a powerful model for inclusivity for the larger community. It is hoped that the suggestions offered here will not be onerous to the instructor and still create a practical means of more fully integrating students who may already feel marginalized.

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Commentary on Multicultural Student Engagement

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This chapter distills many personal experiences engaging students from diverse backgrounds. For years, I have taught both undergraduate and graduate psychology students in largely multicultural contexts. My experiences have varied from one class to the next, and I have learned many lessons.

The purpose of this chapter is to offer commentary from several instructors, about what we have learned about teaching in multicultural contexts. At times, I support the lessons learned with either an example from experience, or existing literature. Instructors who engage students in multicultural classrooms should find these lessons helpful. Readers may read the chapter from start to finish. Others may find it helpful to skip from one section to another.

I posed four questions to my colleagues who teach in multicultural contexts: (a) What are some of the challenges in trying to engage students in a multicultural classroom? Advantages? (b) How must an instructor engage students in a multicultural classroom? (c) What are specific techniques you have used to engage students in a multicultural classroom? and (d) What are lessons learned from your time engaging students in a multicultural classroom?

My colleagues and I, who teach and engage students in South Africa, Argentina and the United States have had similar and dissimilar experiences. We have shared insights, yet some unique ones as well. In this work, I share all I gleaned from these discussions and of my own insights, experiences and examples.

What are some of the challenges in trying to engage students in a multicultural classroom? Advantages?

For instructors of psychology, a particular challenge can be distinguishing between abnormal behavior and cultural practice. Some examination of social norms indicates that the behavior of minorities (often the student from a diverse background) can be deemed as abnormal, therefore "making them acceptable targets for accusation and correction" (Verkuyten, 2001, p. 257). For one culture, what is deemed as normal (such as the physical disciplining of children) can be quite abnormal or out of the ordinary for another individual or culture. In these situations, it is important to learn about various cultural practices without judgment, yet maintain a sense of critical analysis with regard to specific behavioral practices. Instructors may also consult cultural experts to gain a better understanding of what is adaptable in one culture versus another.

One difficulty for instructors in the multicultural classroom may be balancing tensions while encouraging a variety of perspectives on a single topic. The multicultural classroom is diverse, and the balancing of multiple perspectives can be challenging. Instructors in these situations should help students discuss rather than debate topics. Years ago, I came across the *One America Dialogue Guide* (1998) which was developed during Bill Clinton's presidency as a guide for conducting discussions on race. I have found its principles quite useful in my multicultural classroom. For example, the guide describes debates as "oppositional", "having winning as the goal", and "an attempt for one side to prove the other wrong". On the other hand, dialogues are different:

> "Unlike debate, dialogue emphasizes listening to deepen understanding . . . Dialogue invites discovery. It develops common values and allows participants to express their own interests. It expects that participants will grow in understanding and may decide to act together with common goals. In dialogue, participants can question and reevaluate their assumptions. Through this process, people are learning to work together to improve race relations."

In my teaching, I often frame my classroom around these goals. In addition to introductions and icebreakers at the outset of a class, I also discuss classroom rules and expectations. I include the characteristics of dialogues in this conversation with students.

Despite these challenges, diversity in the classroom can create an enriching learning environment. This diversity can challenge the status quo and allow for more perspectives in the classroom. The contrasts in the classroom can allow for great discussions when facilitated appropriately. Also, certain experiential activities come alive in a

multicultural context. For instance, having students group themselves into cultural groups might better accentuate a certain issue if the classroom is a multicultural environment. It can also be a place where instructors critique standard theories. Multiple perspectives can help instructors and other students see theories and concepts through varied lenses and create a dynamic and exciting learning environment.

Finally, engaging students in a multicultural environment or discussion can have long-term effects. In my experience, students I taught several terms before will often return and describe how the course changed their perspectives, even outside the classroom. Many of these students experienced real change with regard to attitudes and beliefs about multicultural and diversity issues. One instructor states that what he and his students discuss has real life relevance. These students may make progress in the classroom, but the consequences may reach beyond the classroom into the students personal and community environments.

How must an instructor engage students in a multicultural classroom?

Largely, the success of a multicultural classroom depends on an instructor's level of multicultural awareness. In *Counseling the culturally different*, Sue and Sue (2010) describe a tripartite framework of multicultural awareness. This theory indicates an individual must (a) be aware of themselves and others, (b) have knowledge about different cultures, and (c) utilize appropriate skills to interact with multicultural populations. In a multicultural classroom, an instructor's attitude (either flagrant or subversive) can set the tone for the classroom. In this way, it becomes important for instructors to be aware of themselves in a multicultural context and incorporate inclusiveness into their classroom instruction and management.

Having an attitude of inclusion goes a long way in setting a multicultural tone for the classroom. Many instructors find that an open and inclusive attitude towards diversity originates from their own early experiences. One colleague reports that she was a youth in South Africa educated in both pre- and post- apartheid school systems. Her family's commitment to social responsibility and her own involvement in social change movements, she reports, inspired her and now influences her attitudes toward inclusiveness in the classroom.

Not only must instructors be aware of themselves and their attitudes, they must also be aware of the diversity of students. Instructors often need to orient diverse students to the learning process

and allow them to share their unique social and cultural histories in the classroom (Allen, Taleni, & Robertson, 2009). This can be a sensitive and complicated maneuver. When done well, it allows students to openly express themselves as unique individuals and enrich the classroom experience. As a graduate student in California, it was helpful to me when instructors allowed me to acknowledge my upbringing in a rural town in the southern part of the United States. My early sociocultural experiences shaped me and impacted my perceptions. In one case, an instructor allowed class members to share any of their feelings about a racially motivated current event. In the Texas town where I was raised, an African American man had been murdered by racists. The case became national news, and acknowledging my closeness to the case helped me experience my instructor and other classmates as inclusive.

Connecting with students and having genuine concern for them as individuals may also increase an instructor's effectiveness. This can be true in a multicultural context. For students across racial groups, relationships with faculty members can influence how much energy students put into completing course assignments and tasks (Lundberg & Schreiner, 2004). On this topic, one colleague expressed genuine concern for students. This genuineness may include concern for the wellbeing of students, making class material relevant to all students, and connecting the class topic to who the student is and where they are both developmentally and socially.

Years ago, while presenting on the topic of multicultural student engagement at a teaching conference, a question arose in the audience. An instructor of statistics wanted to know how he could make his topic relevant and interesting to a group of young, African American students in his course. One audience member suggested using the book *Even the rat was white* (Guthrie, 2003) or similar texts to stir the students' interest in the topic. Perhaps, he said, making the topic relevant to these young men, would help them become more interested and therefore more engaged in the classroom.

What are specific techniques you have used to engage students in a multicultural classroom?

Instructors may utilize a variety of techniques to keep a multicultural classroom engaged in a particular topic. Many instructors use "ice breakers" to help instructors and students to become acquainted with one another at the onset of a course.

One successful icebreaker involves asking students what are favorite foods in their culture. This type of activity, especially in a multicultural setting, allows students to engage in a non-threatening topic while learning about each other's cultures. In other icebreaker activities, instructors might ask students "What are some things I should know about you as an instructor?" In one case, a South African instructor asks students to divide themselves into their own cultural groups. Students may place themselves in a group or in no group at all, for a variety of reasons. Processing and discussing the hows and whys of a student's self-identification can be an important part of "breaking the ice" in a multicultural classroom.

When an individual or group dominates classroom discussions, other students often become disengaged. In this case, an instructor can draw out less dominant voices with questioning. It is useful in any classroom, but especially those that are multicultural, that as many voices as possible are heard. In one case, an instructor asks "Is this true for you?" or "Is this true in your culture?" when addressing diversity issues in the classroom. The instructor selects less vocal class members to question directly if a specific individual or group dominates a classroom discussion.

Experiential activities help address multicultural issues in the classroom. Another instructor shared with me that, it is the discussion and processing of these activities after they have ended, that provides the most benefit in the classroom. In the processing of experiential activities, instructors can ask questions and otherwise help students further explore the concepts and their experiences.

Another tip in using experiential activities in these cases is to keep the class as relaxed and enjoyable as possible. Often, experiential activities create a certain amount of tension and vulnerability. Keeping the environment as relaxed as possible, may counter some of these more difficult aspects.

In general, group activities help keep students engaged in a multicultural classroom. For me, asking students to separate into small groups usually allows students to have more in depth conversations about certain topics. Many of my students seem more willing to discuss issues in smaller rather than in larger groups. Years ago, while teaching a course in multicultural issues, a student emailed me regarding her experience of me in the classroom. She explained that because our opinions were so diverse, she often felt that she did not have an opportunity to express her ideas in the classroom. The next week, I explored the use of small groups -- as well as keeping some of my opinions to myself. This student and others became more engaged in classroom topics. From that

experience, I learned that my own dominance can hinder student engagement.

Finally, assessments can influence how a diverse student group performs and engages in the classroom. Instructors may consider structuring assessments in a way that allows students to respond from a multicultural or even multinational perspective. Many instructors appreciate multiple-choice instruments; however, students may be better assessed through written, oral or other more creative projects. In one graduate clinical psychology program, students in a group therapy class submitted murals as a final project, with success.

What are lessons learned from your time engaging students in a multicultural classroom?

Overall, there were valuable "lessons learned" shared in discussions with my colleagues. One colleague states the importance of genuineness. For instructors in multicultural classrooms, being genuine can help students experience the classroom as inclusive and inviting. In this case, students may be more willing to share and be engaged in classroom topics and discussions. However, instructors must also not overextend themselves to engage students in the classroom. For one instructor, who teaches multicultural classes, a lesson learned includes allowing students to do their own work in terms of growing in multicultural competence, rather than taking responsibility for the growth work of students. This can include challenging students to explore topics further, yet allowing students to grow at their own pace. Additionally, instructors must understand that each student has a unique sociocultural history. These histories will influence how students perceive topics and often how they behave during classroom discussions and activities. When instructors incorporate this into their understanding of student experiences, a more holistic approach toward students can be undertaken.

Another lesson learned in multicultural student engagement is the education and enrichment of the instructor. Instructors can gain valuable information about various diversity issues and multiple cultures by engaging with students from different cultures. For some instructors, engaging in a facilitative approach in the classroom may increase the possibility of this type of enriching experience. Facilitated discussions allowed the hearing and telling of multiple 'stories' and therefore create a greater possibility of learning about multiple perspectives.

Another lesson in multicultural student engagement is to refrain from passing judgment of multicultural and multinational students. Because every student has their own 'story', instructors may realize that multiple factors influence whether a student engages in the classroom. In my experience, I have made fauty judgments about students. In some cases I learned that students were dealing with personal situations. In other cases, students were uncomfortable speaking to me openly because I was viewed as an 'authority figure'.

Conclusion

In many ways, teaching students from diverse backgrounds is valuable and enriching. I have learned as much from my students as they have learned from me. Conversely, teaching in multicultural classrooms has been the source of tremendous challenges. Having a heterogeneous group of students often means greater diversity of ideas in the classroom and more tension. The engagement of students in a multicultural classroom can be a demanding, yet enriching experience. Instructors can learn from these experiences as much as students learn from hearing and analyzing various perspectives on classroom topics. It takes great skill and flexibility, as well as an attitude of inclusiveness to successfully engage multicultural students.

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Engagement of International Students on United States Campuses

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The number of international students in the United States has continued to steadily rise. In 2009, there were 672,626 international students studying within the United States (Institute of International Education, 2010). One challenge has been to engage these students fully in the educational process within the classroom and throughout the campus. Student engagement has been defined as the time and energy students put into purposeful activities and the effort that institutions dedicate to using effective educational practices (Kuh, Cruce, Shoup, Kinzie, & Gonyea, 2008). International students face sociopolitical, cultural, educational, institutional, and personal challenges that effect student engagement. To continue attracting international students, the educational systems must interact effectively with the students to create a sense of belonging and connectedness. Although attention is often focused on students' specific culture and needs, this discussion will address ways faculty members and university communities can facilitate active engagement within their classrooms and throughout their campus communities.

Understanding International Students

In the past students traveled to the United States to access knowledge from faculty and printed resources. Sources of knowledge have changed from primarily printed sources with limited impact to electronic and online sources with many access points. The implication is that international students must be motivated to come for more than knowledge acquisition. Many international students seek group interactions where creativity and insight are generated from the cooperative nature of groups (Zhao, Kuh, & Carini, 2005). International students need higher engagement and interaction levels in classroom activities that foster interaction between majority culture students and international students (Zhao et al., 2005). Therefore, the United States system should adjust and meet different needs within the classroom. Many international students seek group interactions where creativity and insight arise

from the cooperative nature of the groups (Zhao et al., 2005). Faculty can take advantage of students' interest to interact with others by designing assignments that require cooperative interaction with others, brainstorming of ideas, and complex problem solving challenges.

Robert Pace (1980) was the first to create a framework to examine the needs of international students. Pace's (1980) research examined a set of holistic learning outcomes: (a) acquiring understanding of literature, history, and knowledge about the world; (b) getting along with others, functioning as a team member, and understanding self; (c) gains in understanding new technology, understanding science, and analyzing quantitative problems; (d) gains in ability to synthesize ideas, thinking analytically, and writing effectively; and (e) gains in vocational preparation and professional skills. By understanding these holistic learning outcomes, members of a university community can focus on specific activities that address students' needs in these areas. For example, a small group activity that requires students to interact with others meets an international students need to develop in multiple areas such as acquiring knowledge, functioning as a team members, and gaining experience in synthesizing ideas. International students bring their knowledge and skills to the team while benefiting from the skills of the other group members. International students, who tend to be motivated on increasing their ability to function within these learning outcomes, can be engaged within the classroom because of this motivation.

Engagement of international students should occur outside of the classroom and within the classroom. Environments can affect a person's self esteem, mood, and satisfaction (Moos, 1979). Different environments can affect their level of engagement and can be categorized as primary, associative, and university/community. The primary environments are the basic unit and most influential of social organization for an individual providing intense, personal association that are face-to-face and sustained over a period. These environments tend to

have a degree of intimacy rather than a physical or geographic proximity (Morrill, Hurst, & Oetting, 1980). For international students a roommate, teacher, or person from their home culture might create these environments. International students will have a stronger connection with a university if they connect with a local area student who can provide a bridge between cultural differences. Activities that can strengthen the connection with international students in this area can be a 'buddy student', a host family, or an advisor who forms a strong relationship with the students on a personal level. Studies indicate that the more engaged a student is in their learning environment, the more he or she is giving to and taking from educational resources and opportunities provided by the school (Chickering & Gamson, 1987; Pace, 1980; Pascarella & Terenzini, 1991).

Researchers have demonstrated that engagement in campus life enhances the learning environment and increases their satisfaction on campus and in the learning process (Hoffman, Perillo, Hawthorne-Calizo, Hatfield, & Lee, 2005; Zhao et al., 2005). Satisfying social relations is important to student success and its impact on positive engagement patterns of international students (Zhao, et al., 2005). The University of Maryland Baltimore County explored the concept of peak experiences. The peak experiences were first time travel outside of their native country, stepping away from their roles in everyday life, establishing a new identity, and participating in competitions (Hoffman, et al., 2005). All these experiences are also common among international students studying in the United States. The experience of studying overseas often forces the student to take risk, be spontaneous, rise to challenges, and use creative actions. These factors were determined by the research to be a specific set of conditions that create an opportunity for a student to undergo a life-changing event. Teachers can take advantage of these conditions by formatting assignments that force international and other students into perspectives outside of their normal comfort zone. "Being exposed to new values, attitudes, and behavior patterns is not necessarily debilitating however; indeed the experience can be transforming" (Zhao et al., p 210). The research suggests that the university community must be supportive, but not too supportive. According to Hoffman (2005), "People seem to be most open to intense engagement and least risk-averse when they feel nurtured and supported in their explorations. However, too much support can drain situations of challenge and uncertainty" (p. 12). The balance between challenge and support as the optimal environment for students' learning and development was introduced by Nevitt Sanford in *Where Colleges*

Fail (1969). Universities have continued to struggle to find this balance of challenge and support for international students as well (Dalton & Crosby, 2008).

Primary Environments

Enhancing the connection of international students at the primary environment level, faculty can discuss variations of communication and services at their specific university. These discussions often assist all students in the classroom, however, international students are not accustomed to a wide variety of student services on campus. International students need to be introduced to services and educated that it is to their advantage to become familiar with and utilize these services. Many campuses have writing centers, counseling services, and advising opportunities and students who use these services will have a stronger connection to their faculty and the university community (Pace, 1980; Zhao et al., 2005). Faculty members should also analyze their lesson plans to identify patterns of interaction. Au (2009) recommends a variety of communication patterns that illustrate a value of cooperation as well as competition. Furthermore, Au (2009) suggests faculty discuss in class with their students various communication patterns so that students from a variety of cultural backgrounds become familiar with different interaction styles within the classroom. For example, while raising your hand and waiting to be called upon in a lecture is familiar for most students, a brainstorming activity whereas students just shout out suggestion might be strange or different to some students. Through holding a discussion with the students, the faculty member is acknowledging that students might be more comfortable with some communication patterns based on their culture. Promising approaches include creating learning environments that promote and value diversity, as well as challenging students to work to examine unchallenged assumptions (Kuh et al., 2008; Zhao et al., 2005). Faculty members can serve on committees and create initiatives to engage students on a personal level, but also affect the other environments as well. Weimer (2009) discusses how it is important for faculty members to create an environment that encourages students to participate and illustrate their knowledge. She contends that students need to be encouraged to take risks and international students must see how it benefits individuals to answer questions within the classroom. She also explains using humor, having presence in the classroom, and forming participatory seminars are all methods to engage international students within the classroom.

Associational Environments

Associational environments are organized groups that are based on choice or chance affiliations. Group members share a consciousness of similar interests, goals, or needs and join a group to pursue a common path. Examples of these environments are classes, clubs, fraternities, and cultural associations. One of the most popular activities within this environment for international students are cultural clubs that are based either on their specific culture or a group devoted to all international students (Morrill, et al., 1980). These groups often host international festivals or cultural events on campuses that have entertainment based on their ethnic cultures or ethnic foods. Most diversity educators work to move beyond these ethnic events and strive to promote advance educational activities that allow others to gain a deeper understanding of the complex cultural and ethnic relationships of different countries and ethnic groups (Neuliep & McCroskey, 1997; Zhao et al., 2005). Faculty and campus communities that want to strengthen the engagement of international students should look at altering goals, communication patterns, interactions, and expectations of the group norms to consider the needs of students from different cultures (Morrill et al., 1980; Zhao, 2005).

Schlossberg discusses in a number of her works the issue of marginality and mattering, stating that it is important for students to feel that they are valued in a community and have a voice (Evans, Forney, Guido, Patton, & Renn, 2010). A campus can illustrate that individuals are valued through their group interactions. In fact, while many groups reflect an effort to have growth in the group as a functional unit, it is rather the individuals that are most often influenced within the framework of groups. Nationality clubs can increase the interaction of international students though at times these interactions can be limited to students from the same culture (Rose-Redwood, 2010). At the associative environment, one of the highest level of satisfaction has resulted from students who have participated in conversation events or with partners to increase their risk taking and frequency of speaking multiple languages (Rose-Redwood, 2010; Zhao et al., 2005). Faculty members play an important role in advising groups and should be encouraged to be teachers outside of the classroom.

University and Community Environments

University or community environments are identified as the third environment for international students and can be the most important, yet the most difficult to change. For the environment to change at this large level there must be a systemic intervention which is supported at all levels for these permanent and ambitious improvements to occur (Morrill et al., 1980). These environments differ with the others in the fact that meetings or close associations of the members do not occur. Rather members of the community are aware of group norms and attitudes. For interventions to occur at this level the campus must publically alter their goals, increase direct communication, create system linkages, and adjust the policies or sanctions (Morrill et al., 1980). Universities who have increased their connections with international students have created programs that involve students in campus discussions, global perspectives integrated across curriculums, and celebration of the similarity and differences of all students. Engagement of students has been shown to increase with the perceptions of how much the campus environment emphasizes a diverse set of educational priorities (Kuh, et al., 2008).

The university environment also has a large impact on the perceptions and attitudes that are exhibited in the classroom; therefore, creating an environment that values different cultural perspectives is necessary for a feeling of inclusion for many international students. Hoffman's et al. (2005) work demonstrated that a university must create a structure that promotes engagement and discussions at all levels. Research has shown that students from dissimilar cultures often experience a sense of 'intercultural communication apprehension' (Neuliep & McCroskey, 1997; Zhao et al., 2005) and that many students retreat into a stance of ethnocentric beliefs (Kuh et al., 2008; McCalman, 2007). One challenge faced by United States educational institutions is to overcome resistance and create environments that welcome opinions from international students and alternate perspectives. The two personality traits that must be addressed are authoritarianism and dogmatism as these traits were strong predictors of low receptivity to international students (Bresnahan & Kim, 1993). Uncritical acceptance of the status quo is a stance by authoritarians who see outside interference as a threat to the maintenance of their lifestyle. Dogmatic personalities feel uncomfortable with international students with different perspectives and have a low tolerance for ambiguity. A formal position stated by the university and repeated by individual instructors will create the position that opinions are welcomed and encouraged from international students while promoting a feeling of acceptance. The creation of an environment where risk taking is acceptable is also important so that international students will take steps to interact more with students from the majority culture and vice versa (Kuh, et al., 2008).

Traditional programs from international students at the university or community environmental level

have focused on international houses, cultural festivals, and new student orientations. All of these programs are important, but as the term 'sociopetal' refers to architectural design then encourages interaction, a university must design programs that encourage the mixing of international students at all levels. Students who travel to the United States to study abroad desire to be accepted for their knowledge and skills as individuals and be value as a person beyond their life experiences from another culture. International students have become embedded as part of the structural diversity of universities, however, interactive activities must encourage international and majority students to look deeper into different cultures for a broader understanding (Kuh et al., 2008; Zhao et al., 2005).

Conclusion

Information from student development theories and beliefs about the design of classroom and university environments can be helpful when interacting with international students. As educators, we need to move beyond a general belief and work to connect with the international students on an individual and systemic level. Educationally we are aware how a student's efforts and perceptions relate to personal estimates of progress made toward a holistic set of learning outcomes. A large number of international students will travel to the United States as long as we are making progress towards enhancing their educational goals. However, we also need to continue to work towards making a connection with international students on a personal and environmental level to enhance their learning and increase their engagement on our campuses. As we look at each level of the interactive environment with a student, we need to maximize its impact through a systemic and comprehensive plan to meet students' needs and educational objectives.

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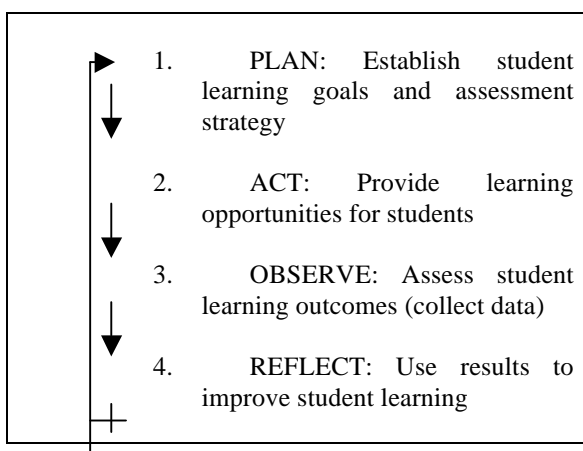# Section 6. Assessing Student Engagement

Blaine F. Peden, Editor

Documenting the Beneficial Effects of Student Engagement: Assessing Student Learning Outcomes

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Assessment is a broad topic in higher education, and often used for program review, outcomes assessment, or institutional accreditation. To narrow the focus to student learning, Walvoord (2004) defined assessment as *"the systematic collection of information about student learning, using the time, knowledge, expertise, and resources available, in order to inform decisions about how to improve learning"* (p. 2; italics in original). Readers should consider assessment as a specialized area of research which seeks to measure of student learning. Assessment is more akin to action research, where the purpose of the research is to inform and improve self-practice. The typical steps in action research are to plan, act, observe, and reflect. In Figure 1, see how action research maps onto a systematic approach to assessing student outcomes (Suskie, 2009).

1. **PLAN:** Establish student learning goals and assessment strategy

2. **ACT:** Provide learning opportunities for students

3. **OBSERVE:** Assess student learning outcomes (collect data)

4. **REFLECT:** Use results to improve student learning

These same steps serve as the organizational structure of this chapter. Two other considerations are worthy of note. First, there is a vast accumulation of research concerning the assessment of learning in elementary and secondary schools; this chapter addresses only collegiate assessment. Second, the emphasis throughout this chapter focuses on course-based assessments. Thus, assessments that are added-on as part of program review, graduation requirements, national licensing/certification standards, and so on are not addressed in depth here. If student engagement is to be valued by educators, then meaningful assessment provides a mechanism to evaluate the magnitude of engagement, how that level of engagement affects student learning, and provide a means for educators to reflect on and plan for future student engagement efforts.

PLAN: Establish Student Learning Goals and an Assessment Strategy

The assessment of student learning outcomes assumes a priori that measureable learning goals exist. Although planning learning outcomes for students sounds intuitive, the development of meaningful and measurable learning goals is challenging. Consider the scenario in which you are asked to teach a new course—what steps might you follow? With regard to course planning and design, many would select the textbook first (because of departmental/institutional deadlines). You may choose a teaching approach that has served you well in the past; for example, students (and student evaluations) suggest you are an outstanding lecturer, so you elect for lecture mode. You have some favorite exercises/activities from other courses that you "know" will work, so you make sure to include your time-tested favorites. Perhaps after the course is designed, the textbooks are ordered and the syllabus is nearly complete, you realize you need to add an assessment approach. Will students write a paper, take tests or quizzes, participate in online discussion threads, or create a wiki? You add the assessment strategy at the end of the design process because you do have to (sometimes begrudgingly) assign grades at the end of the course. What I have described here is a typical approach to course design (Wiggins & McTighe, 1998). If assessment practices are not embedded from the start, faculty may view meaningful assessment as additional work and view assessment processes as a burden rather than

an opportunity to gauge the level of student engagement.

In the example, learning goals did not play a central role the design process, and assessment was an afterthought. Years ago, experts in course design suggested a different sequence of course planning steps; a sequence that is counterintuitive to many faculty members, hence the label "backward design" (Fink, 2003; Wiggins & McTighe, 1998). "Backward" calls attention to a different sequence of course planning. In backward design, learning goals are the initial, central focus of the design process. These learning goals must be articulated with clarity and precision (like operational definitions) to be useful in the next step of backward design, which is then to determine the assessment method. After the assessment process is in place, *then* the educator designing the course considers the pedagogical approach; assessment drives pedagogical decision-making. As Wiggins and McTighe (1998) put it, "what would we accept as evidence that students have attained the desired understandings and proficiencies—*before* proceeding to plan teaching and learning experiences" (p. 8; italics in original). Know any tenure-track faculty that would like to know, at the start of their careers, what the evidence would look like to receive tenure, and how the submitted evidence will be used to make the tenure decision?

Consideration of backward design might push an educator out of his/her comfort zone. A course goals plan first and an assessment plan second might lead to the conclusion that lecturing is not the optimum pedagogical approach. An educator committed to backward design may seek a pedagogical approach that requires additional work on their part. The strength of the backward design approach lies in the articulation of course-relevant learning outcomes. Some educators may not begin their course design or course planning process with learning goals in mind. Learning goals and outcomes may be an individual instructor decision, or promulgated by departmental goals. Departments not vested in assessing student engagement may not create the conducive evaluative environment desired, but individual gains can be reaped. Even in the absence of individual faculty or departmental learning outcomes, psychology educators should be aware of the 10 undergraduate learning goals and outcomes established as guidelines by the American Psychological Association (2007)—hereafter *Guidelines*. Presented in two sections, the first five goals address knowledge, skills, and values consistent with the science and application of psychology:

1. Knowledge base of psychology—students will demonstrate familiarity with the major concepts, theoretical perspectives, empirical findings, and historical trends in psychology.
2. Research methods in psychology—students will understand and apply basic research methods in psychology, including research design, data analysis, and interpretation.
3. Critical thinking skills in psychology—students will respect and use critical and creative thinking, skeptical inquiry, and, when possible, the scientific approach to solve problems related to behavior and mental processes.
4. Application of psychology—students will understand and apply psychological principles to personal, social, and organizational issues.
5. Values in psychology—students will be able to weigh evidence, tolerate ambiguity, act ethically, and reflect other values that are the underpinnings of psychology as a discipline.

The remaining five goals address knowledge, skills, and values consistent with liberal arts education that are further developed in psychology:

6. Information and technological literacy—students will demonstrate information competence and the ability to use computers and other technology for many purposes.
7. Communication skills—students will be able to communicate effectively in a variety of formats.
8. Sociocultural and international awareness—students will recognize, understand, and respect the complexity of sociocultural and international diversity.
9. Personal development—students will develop insight into their own and others' behavior and mental process and apply effective strategies for self-management and self-improvement.
10. Career planning and development—students will emerge from their major with realistic ideas about how to implement their psychological knowledge, skills, and values in occupational pursuits in a variety of settings.

The *Guidelines* can provide scaffolding to aid faculty members and departments blend broad national goals with local context. Additionally, the further into the major, the more complex learning goals should be, and in upper-division courses multiple *Guideline* skills and abilities should be developed and practiced. Given the recent

development of the *Guidelines*, it appears that additional effort is warranted in aligning learning goals with actual classroom activities. For instance, Tomcho et al. (2009) reported that when reviewing a national sample of Research Methods and Statistics course syllabi in comparison with the second APA Undergraduate *Guideline*, certain components of that *Guideline* are regularly absent from respective course syllabi. Furthermore, these authors identified mismatches between the learning objectives presented in the syllabus and what instructors presented in the class. For example, 9% of syllabi for Research Methods included the goal for students to be able to distinguish between research designs that do and do not allow causal inferences, yet instructors self-reported that they spend 80% of course time covering this topic. Assessment of student engagement provides the data to observe and reflect upon course outcomes.

Taken together, the lack of integration between learning goals, pedagogical approach, and assessment may be overcome with a backward design approach where learning goals precede the assessment plan, and pedagogical choices.

However, once goals are in place, the next step is to provide learning opportunities for student; in other words, teach the course. In the Halpern (2010) volume from the University of Puget Sound conference, one important point was greater emphasis on student responsibility for their own learning. Clearly that relates to student engagement, but less clear how it relates to various *Guidelines* and the specific student learning objectives contained within the *Guidelines*.

ACT: Provide Learning Opportunities For Students

The range of potential teaching methods, approaches, and strategies is voluminous. For an incomplete list of the possibilities (based on resources cited in this chapter, including Chew, personal communication, August 1, 2010), see Table 1. If a faculty member is looking to break out of the lecture model, the methods provided in Table 1 may provide ideas about how pedagogical practices could be selected and matches to achieve desired student engagement outcomes.

Table 1.   List of Potential Teaching Methods, Activities, Approaches, and Strategies

Active Learning	Flashcards	Nature Walks	Self-Paced Learning
Apprenticeships	Forecasting	Negative Brainstorming	Service Learning
Authentic Assessment	Freewriting	Observation	Shared Inquiry
Authentic Instruction	Gallery Walk	One Minute Papers	Simulations
Blogs	Game-Based Learning	On-line Teaching	Situated Learning
Book Reports	Grant Writing	Oral Reports	Situational Role Play
Case Studies	Group Work	Outcome-based Learning	Skits
Chalk Talks	Guest Speakers	Overheads	Small-Group Instruction
Classroom Research	Guided Imagery	Panel of Experts	Socratic Method
Techniques	Guided Practice	Peer Instruction	Spiral Sequencing
Clickers	Immersion	Peer Review	Story Maps
Collaborative Learning	Independent Research	Peer Tutoring	Storyboarding
Computer Assisted	Inductive Learning	Picture Mapping	Structured Controversy
Instruction	Interactive Lectures	Podcasts	Studio Teaching
Computer-Based Training	Interactive Writing	Portfolio	Study Abroad
Concept Grids	Interteaching	Position Paper	Study Groups
Concept Map	Interviewing	Posters	Study Guides
Concept Tests	Jeopardy	PowerPoint	Supervised Practice
Conducting Experiments	Jigsaws	Precision Teaching	Surveys
Contract Grading	Journal Writing	Problem-Based Learning	Symposium
Cooperative Learning	Just-in-Time Teaching	Proposal Writing	Team Teaching
Critical Instances	Keller method	Quickwrite	Textbook Assignments
Curriculum Centered	Knowledge Rating	Reaction Papers	Think-Aloud
Data Analysis	Lab-based Instruction	Reciprocal Teaching	Think-Pair-Share
Debates	Learner Centered	Recitation	Threaded Discussion
Deductive Inquiry	Learning Communities	Reflection Papers	Three Minute Pause
Demonstrations	Lecture	Reflective Discussion	Tutorials
Discovery-Based	Letter Writing	Reflective Practice	Universal Design
Learning	Literature Search	Report Writing	Video Clips
Discussion	Mastery Learning	Research Papers	Virtual Communities
Experiential Learning	Mentoring	Research Projects	Weblogs
Experimental Inquiry	Microteaching	Role-Playing	Wikis
Facilitative Questioning	Mock convention	Round-Table Discussion	Worksheets
Faculty-student Research	Modeling	Scored Discussions	Writing Across
Field Observations	Muddiest Point	Self-Assessments	Curriculum

The scope of this chapter prevents a thorough review of teaching and learning strategies, but I recommend any of the following resources for additional reading about the topic:

- Anderson, L. W., & Krathwohl, D. R. (2001). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives*.
- Bain, K. (2004). *What the best college teachers do*.
- Bligh, D. A. (2000). *What's the use of lectures?*
- Buskist, W., & Davis, S. F. (2006). *Handbook of the teaching of psychology*.
- Davis, B. (1993). *Tools for teaching*.
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- Diamond, R. M. (2008). *Designing and assessing courses and curricula: A practical guide*.
- Dominowski, R. L. (2002). *Teaching undergraduates*.
- Fink, L. D. (2003). *Creating significant learning experiences: An integrated approach to designing college courses*.
- Gurung, R. A. R., & Schwartz, B. M. (2009). *Optimizing teaching and learning: Practicing pedagogical research*.
- Halpern, D. F. (2010). *Undergraduate education in psychology: A blueprint for the future of the discipline*.
- Lucas, S. G., & Bernstein, D A. (2005). *Teaching psychology: A step by step guide*.
- Svinicki, M., & McKeachie, W. J. (2011). *McKeachie's teaching tips: Strategies, research, and theory for college and university teachers*.
- Walvoord, B. E., & Anderson, V. J. (1998). *Effective grading: A tool for learning and assessment*.
- Weimer, M. (2002). *Learner-centered teaching: Five key changes to practice*.

Any of these books (plus so many more) would be excellent starting points for how to plan learning opportunities for students. The key here is that one's pedagogical approach selected should be congruent with the specific learning outcomes which form the core of backward design.

OBSERVE: Assess Student Learning Outcomes and Collect Data

Some faculty may think "I already grade my students' work"—isn't that assessment? First, both grading and assessment do strive to identify what students have learned. The difference emerges in how student learning outcomes are used. If student outcomes are used for an individual student, then it is grading. If student outcomes are used by the faculty member to reflect on the effectiveness of the course (or to measure how learning goals were achieved), then it is assessment, because the information is being used more broadly (Suskie, 2009). For more on the relationship between testing and grading, see Forsyth (2003) and Milton, Pollio, and Eison (1986).

Figure 2. A 2 x 2 Matrix Integrating Evidence Source (Direct-Indirect) and Assessment Type (Subjective-Objective)

Direct Method: Behavior-Based Evidence From Students	
Objective Assessments—Tend to Be More Quantitative	**Subjective Assessments—Tend to Be More Qualitative**
• Test performance: multiple choice, true/false, matching, fill-in-the-blank, Conceptests, final exams, cumulative finals • Results from national, standardized licensing/certification exams (e.g., GRE) • Results from classroom clicker data on tests or quizzes • Course grades and grade distributions • Admission rate into graduate school of graduating students • Participation rate of students as research assistants, conference presenters, publication co-authors	• Course-based group work • Written products: term papers, lab reports • Performance on essay questions • Capstone experiences • Employer/internship supervisor ratings of student skills • Classroom assessment techniques (one-minute papers, free-writing, concept maps) • Student portfolios • Credit for class participation • Student research papers, conference presentations, senior theses • Online activities summarized and assessed (discussion boards, chat rooms) • Self-reflection, student journals, self-critiques • Senior exit interviews
• Placement rates and starting salaries of new graduates • End-of-semester course evaluation items • National Survey of Student Engagement (NSSE) data • Year-to-year retention rates, graduation rates • Library use statistics/web hits • Transcript analysis	• Alumni satisfaction and career perception/preparation surveys • Focus groups comprised of students, alumni, or employers • Student and alumni recognition via honors, awards, scholarships received • External examiner reviews (from departmental self-study process) • Performance reviews by employers, graduate school advisors • Departmental syllabus audit
Indirect Method: Perception-Based Evidence About Students	

Notes. The items listed in the 2 x 2 matrix on the preceding page appear in multiple sources, including McConnell, et al., 2006; Passow (n.d.), Pusateri (2009), and Suskie (2009). The positioning of the entries within the figure represents the opinions of the author; it is hoped that this depiction of assessment along these two dimensions provides a helpful organizational scheme for both assessors and assessment researchers.

Assessment builds on the grading processes already in place (Walvoord, 2004). Grading is a direct measure of learning because grades address student performance on a particular task (e.g., writing assignment, weekly quizzes), grades are allocated via set evaluative criteria, and faculty decision-making yields an analysis and interpretation of student performance. In fact, this notion of direct/indirect measures is a useful heuristic to organize the extant literature on assessment, and these dimensions are used in other disciplines (Weldy & Turnipseed, 2010).

Direct – Indirect Dimension

Direct measures of student learning are what most would call grading, that is, the individual evaluation of student work such as exams, writing assignments, class projects, or other overt evidence. Indirect measures of student learning may be perceptual in nature, that is, asking the student about their opinions or attitudes about how much they learned, alumni surveys, and surveys of employers (Walvoord, 2004). To see the intended usefulness of the direct-indirect continuum, compare the items entered in the top half vs. the bottom half of Figure 2.

Objective – Subjective Dimension

Although placement of items along this artificial dimension is debatable, this organizational scheme helps comprehend the literature. Here, objective assessments are those that possess absolute correct and incorrect answers; an objective test is accompanied by a scoring key that allows the test to be machine scorable (Ericksen, 2009), although there are many variations on a theme (Wright, 1994). There is only one correct answer for an objective test item. Examples of objective assessment items include multiple-choice, true-false, and matching questions (Suskie, 2009). Objective assessments tend to yield quantitative outcomes.

According to Suskie (2009), the advantages of objective assessment are that (a) they are efficient, with the capability of delivering a large amount of information about student knowledge utilizing little

time; (b) more broad-based approaches can be utilized, although objective assessments are not typically assessing deep processing skills like subjective assessments can; (c) these assessments are easy and quick to score, although their creation is neither easy nor quick; and (d) a singular score (e.g., performance indicator) can be calculated from objective assessments, making this approach popular for summarizing outcomes to third parties.

Alternatively, subjective assessments produce data where a machine-scorable answer solution is not feasible, and skilled judgments are needed to determine learning outcomes. In other words, subjective assessments result in numerous possible answers whose quality varies and assessment requires the judgment of a professional to provide a score or outcome (Suskie, 2009)—often yielding a qualitative outcome. Rubrics aid the assessment of student work that falls to the subjective side of the continuum. Multiple resources exist to aid psychology educators who wishes to utilize rubrics to facilitate subjective assessments (e.g., Arter & McTighe, 2001; Stevens & Levi, 2003; Suskie, 2009), including ideas and suggestions specific to psychology (Gottfried, 2009)

The advantages of subjective assessments are numerous, including (a) the ability to measure many important skills that objective tests cannot measure, including organization, synthesis, problem-solving, creativity, and originality; (b) skills can be assessed using subject assessments, such as having a psychology major write a literature review on a research topic (rather than asking a student multiple-choice questions about how to write a literature view); (c) subjective assessments are thought to promote deep learning and help to establish skills that outlast the rote memorization of textbook information; and (d) nuanced scoring can be used in subjective assessments, such as giving partial credit (Suskie, 2009). To see the usefulness of the objective-subjective continuum, compare the right side to the left side of Figure 2.

This matrix may be useful for future reviews of the assessment literature as well as to provide a conceptual framework for empirical assessment results. The heuristic in its present form generates additional issues to consider. For example, community colleges by necessity will need to be creative in adapting some of the objective-direct measures, such as admission rates into graduate programs, or the proportion of students participating in research assistantships or completing a senior thesis (Seybert, 2002). Alternatively, some existing scholarship may not fit neatly into this 2 x 2 matrix. For instance, Sizemore and Lewandowski (2009) found that for sophomore level research methods and statistics students, subject matter knowledge

increased from beginning to end of the semester, but attitude toward the course material generally did not improve. Thus, both behavior-based and perception-based approaches can be integrated into a single study; it may be that these research designs provide better efficiency compared to other research which addresses only one of the matrix cells. More systematic research that chronicles successes and failure to enhance engagement would provide a valuable resource for educators looking to match a pedagogical approach with a desired learning outcome.

REFLECT: Use Results to Improve Student Learning

Use of assessment outcomes as a lever for change is not addressed in the literature as much as quantitative and qualitative assessment processes are, but this component of assessment is vital for faculty development as well as enhanced student learning. Walvoord (2004) suggested that faculty consult the research and theories about student learning for ideas about what to implement in a collegiate setting and to study one's particular context regarding learning outcomes at an institution. By reflecting on student engagement outcomes in the context of a theoretical base, new ideas may emerge that lead to best practices, or a particular theoretical orientation may help explain a counterintuitive result.

A rich literature exists in many disciplines on the scholarship of teaching and learning (SoTL), and one resource recommend here is the Professional and Organizational Development (POD) Network in Higher Education, located at http://www.podnetwork.org/. Many POD members are also authors of books and resources cited throughout this chapter. Be sure to consult disciplinary-based resources as well; in psychology, the flagship resource is the Office of Teaching Resources in Psychology (OTRP), under the aegis of the Society for the Teaching of Psychology (APA Division Two)—http://www.teachpsych.org/otrp/. Utilizing these resources while reflecting on student outcomes can yield valuable insights that can be incorporated into future offerings of the course.

College professors can create an assessment process as complicated as they would like. An underlying principle to remember is that student engagement outcomes can be considered analogous to dependent variables, both quantitative (objective) and qualitative (subjective). Another important dimension for psychology educators to consider is the source of the assessment—is the assessment student behavior-based, or perception-based about student performance. I hope the matrix presented in this chapter can provide clarity and organization to the complexity of assessing student learning outcomes.

Designing a course using a backward design approach can be a transformative moment in an educator's development. Acknowledging up front the necessity to create meaningful assessment methods prior to implementing a pedagogical plan will indeed seem backward to some. If student engagement is the ultimate goal, then measures of student learning should be paramount. Without assessment, educators are left to wonder which approaches are effective, and which approaches are ineffective. Students, faculty, institutions, and society has too much at stake regarding the student learning enterprise to entertain such a risky proposition.

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Using Standardized Tests to Assess Institution-Wide Student Engagement

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Initial studies of student engagement used time-on-task to assess engagement rates (Brophy, 1983; Fisher, Berliner, Filby, Marliave, Cahen, & Dishaw, 1980; McIntyre, Copenhaver, Byrd, & Norris, 1983). Subsequent researchers and practitioners have struggled to define student engagement and reliably assess the impact of student engagement on students' performance and academic success. The consensus of the researchers is that student engagement affects student learning (Carini, Kuh, & Klein, 2006; Cross, 2005) and exhibits a strong relationship with student persistence (Milem & Berger, 1997).

Shulman (2005) endorsed the importance of student engagement by suggesting, "*learning begins with student engagement*" (p. 38). Given the importance of engagement in student learning, assessment methods are available at both the institutional and course level to determine levels of engagement. Institutional data determine the extent of student engagement in the overall learning process, while course level data determine the effect of learner-centered pedagogical methods on student success. This chapter focuses exclusively on institutional assessment of student engagement. Another chapter in this e-book provides faculty with techniques they can use to evaluate engagement in their own classroom (Mandernach, Donnelli-Sallee & Dailey-Hebert, 2011).

There are two issues apparent in collecting any student engagement data. The first issue is the definition of student engagement. Should the focus of the data collection be on identifying behaviors that indicate engagement or on factors such as the affective or cognitive aspects of engagement (Bean, 2005; Fredericks, Blumenfeld, & Paris, 2004; Handelsman, Briggs, Sullivan, & Towler, 2005)? The second issue is identifying the most effective instruments to collect engagement data. This chapter will address these issues and will provide examples of standardized institution-level student engagement assessment instruments.

The importance of course-level student engagement data is obvious to most faculty members. Faculty awareness of the process of student engagement and the activities that promote engagement in the classroom can lead to the adoption of teaching techniques that will directly improve student learning. The value of institution-wide engagement data may be less obvious. Many faculty members have never looked at the instruments or the data collected, so are unaware of how they can use the data to improve their own teaching. In addition to the more general items included in the instruments discussed in this chapter, data is also collected using items directly relevant to individual classroom teaching. Items that represent effective teaching techniques include: *asking questions in class, making class presentations, working with other students on projects, participating in a community-based project, and receiving prompt feedback from faculty.* The instruments provide faculty a number of examples of these techniques recognized to promote engagement that can be used in the classroom. The institution-wide data provide faculty with information on how frequently students report these techniques are used across campus. Colleges or departments can analyze data to provide specific information about perceived use of engagement techniques within their own sphere of influence.

Student Engagement Defined

Natriello (1984) defined student engagement as the willingness to participate in routine school activities, such as attending class, submitting required work, and following directions. This definition focuses on learners' attitudes or affect and their willingness to meet implicit expectations within the context of an institution (Chapman, 2003). Pintrich and De Groot (1990) defined engagement as students' use of cognitive, meta-cognitive and self-regulatory strategies to monitor and guide their learning process. This definition of engagement focuses on the types of cognitive strategies students use and their persistence with difficult tasks by adjusting their own learning behaviors.

Astin (1984) defined student engagement as "the amount of physical and psychological energy that the student devotes to the academic experience" (p. 298), focusing on the behaviors in which the student

engages, rather than on any motivational aspects of the behavior. He maintained that it is what the learner does that defines engagement or involvement in learning.

Kuh (2003a) defined types of behaviors that students can engage in to enhance their learning and development during college. These effective educational practices include collaborating with peers, interacting with faculty, participating in learning communities or study abroad programs, and spending significant time on academic tasks. He also suggested that student engagement is a complex combination of factors that are both the responsibility of the student and of the institution and faculty (Kuh, 2003a; Kuh, et al., 2005).

To broaden the definition, Skinner and Belmont (1993), focused on cognitive, behavioral, and affective indicators in specific learning tasks in their description of student engagement. "Children who are engaged show sustained behavioral involvement in learning activities accompanied by positive emotional tone. They select tasks at the border of their competencies, initiate action when given the opportunity, and exert intense effort and concentration in the implementation of the learning tasks; they show generally positive emotions during ongoing action, including enthusiasm, optimism, curiosity, and interest." (p. 572)

The instruments discussed in the next section take the broader view of engagement and include items that address cognitive, behavioral, and affective indicators. Some items on the instruments that address cognitive indicators include: (a) how much the coursework has emphasized analyzing, synthesizing, or making judgments; (b) how frequently the student has worked on projects requiring integration of ideas or information; and (c) how often he or she has applied theories or concepts to practical problems. Behavioral items include how frequently the student: (a) asked questions in class; (b) worked with other students on projects; (c) tutored other students; and (d) attended an art exhibit or play. Affective indicators found in the instruments include how frequently the student choses to: (a) work harder to meet instructor's expectations; (b) better understand someone else's views; (c) spend more than 15 hours a week studying; (d) come to class without completing readings; and (e) discuss ideas from a class outside the classroom.

Standardized Measures of Institutional Student Engagement

Several organizations have developed instruments to evaluate students' levels of

engagement and the effectiveness of specific engagement activities at the institution level. These instruments address engagement at different types of institutions and at different stages of a student's academic career. All the instruments include items that address cognitive, behavioral and affective indicators of engagement. The first four instruments assess engagement levels at the university/college level. The first three focus on student perceptions and the fourth on faculty perceptions of engagement. The final instrument is used by community colleges exclusively. The standardized surveys included in this chapter that measure institution level engagement are: (a) the National Survey of Student Engagement (NSSE); (b) the Beginning College Survey of Student Engagement (BCSSE); (c) the College Student Experiences Questionnaire Assessment Program (CSEQ & CSXQ); (d) the Faculty Survey of Student Engagement; and (e) the Community College Survey of Student Engagement (CCSSE). A summary table of the five instruments appears at the end of the chapter.

The National Survey of Student Engagement (NSSE).

The intention of NSSE is to measure the extent of student engagement in various activities, such as learning communities, undergraduate research, internships, and study abroad, designed to engage the student in the learning process. NSSE also collects students' perceptions about what they have gained from their academic experience (Kuh, 2003b). NSSE assesses student engagement in an intentional and empirical way. It allows academic institutions to determine the levels of engagement of their first-year and senior level students and compare these results with peer institutions nation-wide. Since the first NSSE in 2000, over two million students from over 1400 institutions have completed the survey.

The NSSE survey instrument, like all but one of the instruments discussed, can be administered electronically or in paper form. The survey includes items related to (a) Level of Academic Challenge, (b) Active and Collaborative Learning, (c) Student-Faculty Interactions, (d) Enriching Educational Experiences, and (e) Supportive Campus Environments (NSSE, 2007). The participating institution receives a NSSE Institutional Report that includes frequency distributions, mean comparisons and Benchmark Reports for these five areas, plus the comparisons of their results with comparable institutions throughout the country. Colleges or academic departments can obtain benchmark data specific to the department level but the data is only useful if a sufficient number of students from that department have completed the survey.

The Beginning College Survey of Student Engagement (BCSSE).

Students begin their first year of college with a variety of academic experiences, varying amounts of information about college, and differing socioeconomic and family influences. All these factors influence students' attitudes and expectations of the college experience (Cole, Kennedy, & Ben-Avie (2009). Astin (2003) suggested that we need to assess the relevant characteristics of students entering college to better understand the impact of college. Students who are engaged in high school will most likely continue the behaviors of engagement typical of earlier academic experiences.

The BCSSE collects data about beginning college students' high school academic and co-curricular experiences. BCSSE is usually administered either prior to the start of fall classes or within the first several weeks of class. The timing is important since the instrument also collects data on students' expectations of participating in various academic activities during their first year in college. BCSSE surveys students on six scales including: (a) High School Academic Engagement, (b) Expected Academic Engagement, (c) Expected Academic Perseverance, (d) Expected Academic Difficulty, (e) Perceived Academic Preparation, and (f) Importance of Campus Environment (BCSSE, 2010). When both the BCSEE and NSSE are given during an academic year the data reported will include analysis of the relationships between incoming student characteristics and their reported engagement after their first year of college. This allows the institution to determine how students' pre-college characteristics influenced their actual participation in engagement activities during their first academic year.

BCSEE provides reports to participating institutions that include an advising report for each student who submitted a survey and a summary report of all student responses. In addition to the advising and summary reports, each institution participating in both BCSSE and NSSE in a given academic year will also receive a BCSSE-NCSEE Combined Report with their NSSE Institutional Report.

College Student Experience Questionnaire Assessment Program (CSEQ &CSXQ).

This program includes the College Student Experiences Questionnaire (CSEQ) and the College Student Expectations Questionnaire (CSXQ). The CSEQ is used to assess the quality of effort students expend in using institutional resources and opportunities provided for their learning and development. Quality of effort is a key dimension for understanding student satisfaction, persistence, and the effects of attending college (Williams, 2007). The CSEQ also measures students' progress and the quality of their experiences inside and outside the classroom.

The CSEQ instrument is administered to undergraduate students at any point following their first semester in college. The CSEQ measures and reports on three dimensions of student experience including: (a) College Activities Scale, (b) Measures of the College Environment, and (c) Estimates of Gains. Participating institutions receive an Institutional Report containing respondent characteristics, frequency distributions, means, descriptions of the survey results, and norms tables from the national database. In addition to the Institutional Report, institutions may choose to get results reports for students. The Student Advising Report (SAR) is an individualized display of CSEQ or CSXQ results showing the student's responses and the average responses of peers. Over 500 institutions have administered the fourth edition of the CSEQ to over 180,000 students.

The CSXQ is administered to first year students either before or immediately after they begin their college classes. The CSXQ measures students' expectations of the campus environment, of participating in educational activities, and of their achievement of specific learning outcomes. Students' expectations predispose them to select specific learning opportunities and activities, so identification of these expectations can provide useful information to the institution (Williams & Holmes, 2007). The instrument also measures new students' goals and motivations. The CSXQ data reveals the expectations that new students hold about how and with whom they will spend their time in college. This information provides predictions about behaviors that directly impact their success and satisfaction with college.

Over 60 institutions have administered the CSXQ to collect expectations data from over 61,000 students. Participating institutions receive an Institutional Report containing respondent characteristics, frequency distributions, means, descriptions of the survey results, and norms tables from the national database. In addition to the Institutional Report, institutions may choose to get results reports for students. The Student Advising Report (SAR) displays individual student's responses and the average responses of peers.

The Faculty Survey of Student Engagement (FSSE).

Faculty commitment to and encouragement of student engagement has an impact on students (Kuh,

Nelson Laird, &Umbach, 2004; Umbach & Wawrzynski, 2004. At institutions in which undergraduate faculty members encourage and practice active and collaborative learning, students are more likely to participate in these engagement activities (Laird, Smallwood, Niskode-Dossett, & Garver, 2009). In response to this focus on faculty impact on engagement, NSSE developed and made the FSSE available in 2003. FSSE is normally administered to faculty at an institution in conjunction with NSEE surveys of undergraduate students at their campus. The Faculty Survey of Student Engagement focuses on faculty members' perceptions of how frequently students in their classes engage in activities that contribute to engagement. The survey also gathers information on how faculty members rate the importance of these engagement activities and on the frequency and reasons for faculty-student interactions. Faculty members also identify how they organize their time inside and outside the classroom.

Institutions can choose to have the FSSE questions focus on a specific course a faculty member is teaching or on the faculty member's understanding of the typical student he or she teaches. The more generic FSSE instrument is of interest in this chapter, rather than the course-based version. In the generic version, faculty members respond to questions about student engagement based on the typical first-year student or senior they have taught during that academic year across all their courses.

Taken together, the results from the NSSE and FSSE demonstrate that faculty emphasis on educationally purposeful activities will positively impact student engagement in those activities. This in turn increases students' critical thinking, grades, and deep learning (Kuh, Nelson Laird, & Umbach 2004; Umbach & Wawrzynski 2004). Nearly 600 institutions have used FSSE to collect engagement data from over 140,000 faculty members since 2004. The reports available to participating institutions administering NSSE and FSSE include Frequency Distributions for the FSSE and FSSE-NSSE Combined Reports.

The Community College Survey of Student Engagement (CCSSE).

Research on student engagement has focused most frequently on students in four-year colleges and universities. Different missions, goals and student characteristics of community colleges suggest that they should not simply adopt data and tools from four-year institutions. Rather they need assessment tools tailored to their specific needs (McClenney, Marti, & Adkins, 2006).

CCSSE, an adaptation of NSSE, is based on research on effective practices in undergraduate education at the community college level. Both surveys focus on educational practices and student behaviors that lead to success in college. They also focus on institutional improvement and on helping define quality programs in higher education. In both surveys, students report about their undergraduate experience.

While there is overlap in the two survey instruments, there are also significant differences. The CCSSE instrument, The College Student Report, does not contain certain items considered inappropriate for the community college environment (e.g., on-campus residency questions) and contains some new items. The new items focus on technical education, student and academic support services, and student retention unique to the community college environment. There are also differences in the sampling and survey administration procedures for the two surveys. In direct contrast to NSSE, which is administered by direct mail (either electronically or paper based) to randomly selected students, CCSSE uses a stratified random sample of classes at participating colleges, and the paper based survey is administered during class sessions.

CCSSE uses five benchmarks of effective educational practices in community colleges. These include (a) Active and Collaborative Learning, (b) Student Effort, (c) Academic Challenge, (d) Student-Faculty Interaction, and (e) Support for Learners. CCSSE benchmarks represent both institutional practices and student behaviors that support student engagement and are related to student learning and persistence. Since 2001, over 500 community colleges have administered CCSSE to more than 700,000 community college students.

Participating organizations receive a Benchmark Summary Report, a Means Summary Report, and a Frequency Distribution Report with data provided for each question on the survey. In addition, CCSSE develops a summary report each year to report data from all participating institutions. The most recent summary report is the 2009 Making Connections: Dimensions of Student Engagement.

Table 1 summarizes information about the five standardized surveys of student engagement discussed in the paper. The table allows potential users to determine which survey is appropriate in specific situations.

Table 1: Comparing the characteristics of NSSE, BCSEE, CSEQ/CSXQ, FSSE and CCSSE

Survey Characteristics	NSSE	BCSEE	CSEQ/CSXQ	FSSE	CCSSE
Respondents	First semester freshman & Seniors	Beginning freshman	Undergraduate students	Undergraduate faculty	Community college students
Reporting Level	Institution Program Department	Institution Student	Institution Student	Institution Department Class	Institution
Comparative Norms	National College divisions	National	National	None	National
Administered by:	NSSE	BCSSE	Local	FSSE	Local
Administration fee	$3, 375-$7,500	NA	$200-500	$800-2,000	$1,650-$12,550
Registration Fee	$300	$300	NA	NA	NA
Cost Per Respondent	NA	Paper-$2.50 Electronic-$.70-$1.00	$2.00-3.00	NA	NA
Student Advising Report	NA	No cost	$500	NA	NA
Additional Analysis	$300-$600	NA	$150/hour	NA	$500
Additional Questions	NA	NA	$40 (electronic)	NA	$500

The University of Nebraska Kearney (UNK) has administered the NSSE to first semester freshman and seniors in 2002, 2003, 2004, 2007 and 2010. Various departments and programs have used the NSSE data from each year across campus in setting priorities, recruiting, assessment, and program improvement. NSSE data are being used at UNK in strategic planning, academic advising, General Studies, First Year Program, Office of Sponsored Programs, Honors Program, academic departments and programs, and the Office of Assessment.

UNK has been engaged in development of a new strategic plan for the past several years. NSSE data have provided a great deal of valuable information for this process, especially as we looked at our strengths, weaknesses, opportunities, and threats from a student perspective. As a predominantly undergraduate residential institution, the NSSE data are indispensible to effective planning and they will continue to be as we develop action plans from the strategic plan and carry them out. There are specific ways to use NSSE data in strategic planning including: establishing baseline data for student engagement, setting benchmarks for student engagement activities, developing action plans, and establishing priorities.

The General Studies program at UNK has been engaged in a renewal process for the last four years. NSSE data were used throughout the process to inform and guide the development of the new program with a focus on the inclusion of effective educational practices. Continued administration of NSSE will provide information on how successful we have been.

Undergraduate Research is extremely important at UNK and is supported in significant part by the Office of Sponsored Programs. This office uses NSSE data to identify student perceptions of the opportunities and benefits of participation in undergraduate research at UNK, and for use in recruiting and program improvement. All of UNK's academic and student life programs have access to NSSE data and use the data to assess the success of their particular program, as well as for program improvement. Over the last eight years, UNK has developed a culture of assessment and learning with the expectation that we employ regular assessment of all our academic and non-academic programs. To facilitate this process, the Assessment Office provides help and guidance as well as assessment tools and research. NSSE is one of these tools. The Assessment Office is responsible for assuring UNK's participation in external surveys, such as NSSE. In

turn, the Office uses NSSE data in its research to help guide programs in their assessment and program improvement and for institutional accreditation. The UNK Assessment website provides extensive information on the data collected in our administrations of NSSE, BCSSE, and FSSE. The information is located at: http://www.unk.edu/academicaffairs/assessment.aspx?id=52883

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Assessing Civic Engagement

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In the fall of 2002, more than 200 educators, policymakers, students and various constituents of higher education including community organizers and public and private sector funders, came together at the University of Michigan in Ann Arbor for a National Summit on Higher Education for the Public Good with the expressed purpose of developing a common agenda around civic engagement that would strengthen the relationship between higher education and the larger society (London, 2003). Their work resulted in a comprehensive agenda that recognized the need to change a growing public perception that higher education had become an instrumental means for economic advancement and better career opportunities for individuals (Kellogg Research & Consulting, 2002, as cited in London, 2003; Sullivan, 2001). To affect lasting change, that agenda proposed to transform the culture, as well as the structures within academic institutions, by aligning research, teaching and service activities around institutional core values and commitments toward social responsibility. Such goals included developing the civic and leadership skills of students through curricular and co-curricular activities and programs (London, 2003).

As a result, student learning objectives that stem from a civic engagement agenda focus on the development of civic and leadership skills fundamental to democratic societies, and the development of cognitive outcomes including critical thinking and decision-making skills (Astin, Vogelgesang, Ikeda & Yee, 2000; Battistoni, 1997; Boyte, 2004; Colby, Beaumont, Ehrlich & Corngold, 2007; Colby, Ehrlich, Beaumont, & Stephens, 2003; Ehrlich, 2000; Eyler, 2000; Eyler & Giles, 1999; Jacoby, 2003; London, 2003). Equally important to these learning objectives is the understanding that a civic engagement curriculum must be experiential to be truly effective. Holland (2001) found that institutions with a commitment toward civic engagement are more likely to include community-based learning experiences as part of the curriculum. Likewise, studies by Hollander and Hartley (2000) and Gelmon (2000b) suggest that community-based learning pedagogies are linked to increased civic engagement activities among students. Indeed, boundaries between the classroom and the community have become more permeable given definitions of civic engagement that emphasize an institutional commitment to public purposes and ongoing efforts by campuses to improve the civic lives of the communities in which they reside (Boyte, 2004; Ehrlich, 2000; Jacoby, 2003; Plater, 2004).

Improvement and sustainability of community-based learning pedagogies are enhanced through formal assessment activities that involve faculty, students, community partners, policy makers and institutional voices and perspectives. The goal of this chapter is to present an assessment model, relevant to community-based learning, that is easy to implement yet produces meaningful results that will positively impact efforts to increase civic engagement activities among students. For example, instructors should find the framework useful for evaluating the impact of engagement pedagogies through concepts such as student self-awareness and relevance of course content that leads to course improvement. Administrators can use the assessment framework as a means to align institutional commitments to service with student learning outcomes around leadership and community involvement. Community partners can learn to what extent their programs impact student awareness and attitudes related to community needs. And policy makers and funders may find value in the framework as a means to study the impacts of their investment decisions related to student readiness for citizenship and service.

Why Assessment of Civic Engagement is Important

Engagement can be a transformative process. When entered into in a genuine way, it can lead to change on the part of institutions, community partners, students and faculty because it requires ongoing reflection and evaluation strategies designed for continuous improvement (Gelmon, Holland, Driscoll, Spring & Kerrigan, 2001; Ramaley, 2005). Civic engagement through community-based learning experiences enables all stakeholders in the learning enterprise to take part in, contribute to, and benefit from, "a learning organization." Such an organization, according to Garvin (1995), is "skilled at creating, acquiring, interpreting, retaining and

transferring knowledge; and purposefully modifying its behavior based on new knowledge and insights" (p. 8). For students in particular, civic engagement affects not only what students learn but also what should be taught (Gelmon, et. al., 2001).

Assessment of civic engagement manifested through community-based learning activities provides the means to improve student learning and thus provides evidence of the curricular impacts of student engagement (Eyler, 2000; Gelmon, et al., 2001). For example, assessment can help determine the extent to which students are aware of their role as citizens with a voice and of their responsibility to participate in community problem-solving. It can help gauge the extent to which students learn decision-making skills, think critically and resolve conflicts using democratic principles.

The multidimensional nature of community-based learning is reflected in most publications on service-learning and civic (or community) engagement (Gelmon, et al., 2001). A set of good practices synthesized from the scholarship of AAHE (1992), Banta, Lund, Black, and Oblander (1996), and Gelmon (2000a), and included in a chapter by Gelmon (2003) in the Jacoby and Associates volume *Building Partnerships for Service-Learning* (2003), provides an explicit framework for assessment planning and implementation applicable to student engagement activities.

- Assessment begins with articulation of values and a clear aim.
- Assessment works best when the programs/activities it seeks to improve have clear, explicitly stated purposes.
- Assessment makes a difference when it illuminates the answers to questions that people involved truly care about.
- Assessment is most effective when it reflects an understanding of learning (whether student learning, faculty learning, organizational learning, etc.) as multi-dimensional, integrated and revealed in performance over time.
- Assessment works best when it is ongoing and framed in the spirit of continuous improvement rather than episodic.
- Assessment requires attention to outcomes but also and equally to the experiences, the underlying organizational structures, and the processes of delivery that lead to those outcomes.
- Assessment fosters the most substantial improvement when participants from across the educational community (both internal and external stakeholders) are involved.
- Assessment is most likely to lead to improvement when it is integrated with other activities that promote self-evaluation and change.
- Through assessment, educators meet their responsibilities to students, themselves, their institutions, and the public at large.
- Assessment is most effective when undertaken in an environment that is receptive, supportive and enabling.

These principles, along with other concepts of civic engagement, have served as a springboard for discussion and scholarship within the last decade on the various dimensions of engagement. They also provide a guide for how best to assess the viability of civic engagement as a means to infuse the public mission of the academy and educate students in a more holistic, less instrumental way that benefits the common good, as well as the individual.

Assessment is also an important means by which to respond to the demand for increased accountability to policymakers, legislators, funders and the public concerning the mission, aims, and resource utilization of programs within higher education in an era of reduced public funding and higher tuition rates (Gelmon, 1997; Gelmon, et al., 2001). Assessment can also provide evidence of organizational support for engagement activities and community partner satisfaction, which are both key components to sustained commitment for engagement initiatives over the long term (Burkhardt & Lewis, 2005). Given that multiple stakeholders are involved in civic engagement partnerships, assessment planning should consider a "multi-constituency approach," even if initial efforts are designed for internal use such as measuring student-learning outcomes within a specific community-based learning course or overall service-learning curricula (Gelmon, et al., 2001). A multi-constituency approach to assessment applies benchmarks and measures for both internal application and external use. For example, in its work to develop engagement assessment benchmarks of institutional effectiveness and service to society, a special committee on engagement of the Committee on Institutional Cooperation (CIC), a consortium of 12 major teaching and research universities located in the Midwest, identified seven issues and challenges facing academic leaders, academic departments and individual faculty members. Each of the seven benchmarks represents broad areas for assessment, under which specific indicators would be crafted and tailored to meet the needs of specific institutions and programs (CIC, 2005, as cited in Burkhardt & Lewis, 2005).

The CIC institutional benchmarks include, but extend well beyond, curricular impacts of student civic engagement and provide a solid framework for

those institutions and programs developing a multi-constituency approach to assessment. The CIC institutional benchmarks are listed in Table 1.

Table 1: Institutional Benchmarks for Assessment
• Evidence of Institutional Commitment to Engagement • Evidence of Institutional Resource Commitments to Engagement • Evidence that Students are Involved in Engagement and Outreach Activities • Evidence that Faculty and Staff are Engaged with External Constituents • Evidence that Institutions are Engaged with Their Communities • Evidence of Assessing the Impact and Outcomes of Engagement • Evidence of Resource/Revenue Opportunities Generated through Engagement *(CIC Special Committee on Engagement, 2005)*

The CIC engagement benchmarks and corresponding institution-specific indicators that should be developed for individual campuses, have application internally and externally. As a starting place, the CIC committee identified three areas of application for assessment results: (a) mission fulfillment; (b) articulation of engagement to external audiences; and (c) guidance for tenure and promotion programs for faculty (Burkhardt & Lewis, 2005). The application of assessment results for student civic engagement activities can have a place under each of the three broad areas listed above if such activities are part of institutional or academic unit goals and reflect promotion and tenure guidelines that include community-engaged scholarship. In developing assessment concepts or benchmarks and indicators, it is also important to remember that engagement is a reciprocal process based on mutuality and shared responsibility (Boyer, 1990, 1996; Gelmon, Holland, Seifer, Shinnamon & Connors, 1998; Glassick, Huber & Maeroff, 1997). Community partners have their own ideas and needs for assessment, and should be included in all phases of the assessment process—planning, implementation and dissemination. Therefore, assessment results from student civic engagement activities are clearly applicable under the second CIC application area regarding articulation of findings to external audiences, but should also be considered for inclusion in institutional or programmatic communication, marketing and public relations efforts.

The Assessment Process

This section of the chapter reviews some of the broad-based goals of assessment and how to develop tools to assess community-based learning impacts. In doing so, steps are discussed for getting started and determining specific assessment needs, a framework for planning and implementation is introduced, and specific strategies and methods for assessing student civic engagement are presented.

Overall Goals of the Assessment Process

Assessment of civic engagement initiatives, including community-based learning activities, can be useful in three major ways: (a) It should reflect what has been learned; (b) It should serve as a guide for program improvement; and (c) It can be used as a means for building and sustaining community-based partnerships.

At the most basic level, assessment of civic engagement should reflect what has been learned from the particular community-based activity under evaluation (Gelmon et al., 2001). Such learning should be useful to all stakeholders-students, community partners, faculty, and if relevant, the departmental unit and other parts of the academy—that would benefit from the data and information obtained from the assessment. Given that the value of the assessment is measured by the usefulness of the report and the credibility of the methods employed throughout the assessment, the first step in the process entails asking relevant questions about the purpose, usage, actors and resources involved in the assessment. A sampling of questions should include those listed in Table 2.

Table 2: Initial Questions to Help Frame the Assessment
• What is the aim of the assessment? • Who wants or needs the assessment information? • What resources are available to support the assessment? • Who will conduct the assessment? • How can one insure the results are used? *(Gelmon, et al., 2001)* • Can the results of the assessment influence decisions about the program? • Can the assessment be done in time to be useful to stakeholders? • Is the program significant enough at its current stage to warrant assessment? *(Hatry, et al., 1981, as cited in Newcomer et al., 2004)*

Appropriate questions help to frame the design of the assessment and ensure its practicality and value (Gelmon, et al., 2001; Newcomer, Hatry & Wholey, 2004).

Gelmon (2000b) succinctly describes assessment for program improvement as an integrated set of activities designed to identify strengths and areas for improvement, and provide evidence to support future program planning and enhancements. This assessment goal is often referred to as utilization-focused, meaning that the assessment is specifically designed to answer questions that will help guide decision-making about an initiative's future (Patton, 2008). Questions that reflect what aspects of community-based activities should be retained and what elements should be changed are especially useful when civic engagement initiatives are being piloted or are in their formative stages.

Finally, assessment of civic engagement activities can serve to build and sustain service-learning partnerships and other community-based relationships that enhance the engagement strategies of the academy. Gelmon (2003) outlines four specific strategies that not only enrich an assessment process but also contribute to sustaining and building capacity for community-university partnerships.

The first strategy is to involve partners in assessment in meaningful ways that respect their time, obligations and resources. Community partners value the opportunity to provide feedback, and often report that the invitations to participate in assessment activities help them to feel that their role in the university's activities is a valued one (Gelmon, Holland, Seifer, Shinnamon & Connors, 1998). Gelmon (2003) notes that particular attention must be given to encouraging candid feedback from the partners with the emphasis on improving and sustaining the work done together. Partners who feel intimidated to provide honest feedback about the experiences with students, faculty and the university at large will be less likely to continue the relationship for future collaborations.

The second strategy Gelmon (2003) describes is about overcoming barriers to assessment. These problems include lack of time, adequate resources, expertise and management issues that can arise around the organizational logistics required to plan, implement and document a successful assessment process. To overcome such barriers, Gelmon, Foucek, and Waterbury (2005) suggest: (a) focusing the assessment on what can actually be accomplished by developing a conceptually broad matrix that relates to the assessment goals rather than specific activities; (b) working to build a "culture" of assessment by continually emphasizing the benefits of the work; and (c) leveraging resources through

reciprocal arrangements with other faculty and students who may benefit from the experience and exposure to various community partners.

The third strategy stems from the idea of building a culture that understands and values assessment. Gelmon (2003) stresses the importance of integrating assessment into daily work by making it part of the ongoing routine. When assessment is seamlessly incorporated into routine work habits the perception that it is an extra burden on an already heavy workload can be less challenging to overcome.

The fourth and final strategy involves learning from the assessment process itself by including the relationship between the academy and community partners as one of the elements of the program to be analyzed, as well as critically examining the process by which assessment of the program occurred (Gelmon, 2003). Future work on assessment of community impact and community partnerships may be aided by the recommendation of Cruz and Giles (2000). They suggest: (a) using the community-university partnership as the unit of analysis (Seifer and Maurana, 2000); (b) giving serious attention to the principles of good practice for service-learning (Sigmon, 1979; Honnet & Poulsen, 1989, and those described and cited earlier in this chapter); (c) using action research (Harkavy, Puckett, & Romer, 2000); and (d) focusing on an asset-based approach (Kretzman & McKnight, 1993).

Developing Tools to Assess Community-Based Learning Impacts

Assessment of civic engagement through community-based learning initiatives requires that evaluators understand the multiple areas of impact on students, faculty, community partners and the institution as a whole. In the context of community-based learning assessment, this means that key informants from each of the groups above are essential to provide a broad perspective on program impact. Ideally, a multi-constituency assessment approach in this case would mean that a conceptual framework (in the form of an assessment matrix) would be developed and implemented for each group of key informant groups above. The conceptual framework, which is derived from project goals, frames the assessment plan, guides the development of assessment instruments, and structures the data analysis and reporting (Gelmon, et al., 2001). The conceptual matrix organizes the key questions from Table 2 into a logical and systematic framework that guides the assessment. This approach to assessment is based on work initially conducted at Portland State University beginning in 1996 and has been refined (Gelmon, et al., 1998; Shinnamon, Gelmon, &

Holland, 1999) and used by many organizations since.

The assessment framework presented in the following section is complementary to the logic model approach that focuses on inputs, activities, outputs, short and long term outcomes, and impacts (W.K. Kellogg Foundation, 2004); however, the assessment framework uses action-oriented language appropriate for community-based initiatives that involve multiple stakeholders and is framed to articulate what will be assessed (structures, processes and outcomes), rather than emphasizing the various inputs and activities, which is the typical focus of the logic model.

Assessment Framework

The conceptual framework is sometimes referred to as the "Concept-Indicator-Method" approach to assessment and centers on four primary questions:

• **What do we want to know?** This question helps identify the purpose of the assessment based upon the project goals.

• **What are the major areas this program addresses?** This question leads evaluators to identify *core concepts* that are derived from the project goals and the aim of the assessment. Most programs or activities can be thoroughly assessed with a framework of six to eight concepts.

• **What can we observe or measure to generate evidence?** For each core concept, multiple relevant *measureable/observable indicators* are specified which will enable the evaluator to measure or observe change or status. Indicators relate directly to a concept, and help to provide the detailed information that informs the assessment of each concept.

• **How will we collect the evidence to demonstrate what we want to know?** At this stage, the evaluator identifies or develops *appropriate methods or tools* by which to collect the information for each indicator, and identifies *sources* of the data. Methods and tools, applied with various sources, may cross multiple concepts and collect evidence on a number of indicators.

The "Concept-Indicator-Method" approach provides a structure to guide the assessment, enables program administrators and evaluators to clearly articulate the framework for the assessment, and facilitates data collection and reporting in a practical way that is true to the aim and goals of the assessment. In its skeletal form, a sample matrix for a conceptual framework is presented in Table 3. It has four main components:

1. Core concepts
2. Key indicators
3. Methods
4. Sources of information

Table 3: The Matrix Framework

Core Concepts *What are the major areas this program addresses?*	Key Indicators *What can we observe or measure to generate evidence?*	Methods *How will we collect evidence?*	Sources *From whom or where will we obtain this information?*

Strategies for Assessing Impact on Students

What can be learned from assessing the impact of community-based pedagogies on student civic engagement can benefit a number of important stakeholders. For example, administrators may want to know if experiential pedagogies such as service-learning add value to overall student learning. Faculty may want to know if community-based activities improve course content retention. Community partners may be interested in how their role as co-educators can be enhanced. All practitioners of community-based activities may seek to understand both the advantages and the challenges of programs within higher education that seek to advance civic engagement among students.

Core concepts within a conceptual framework are answers to the question: "What are the major areas this program addresses?" They are broad topic areas. The definition of a concept should be written in neutral language to clearly articulate the major program areas or desired outcomes. Concepts for assessment of student civic engagement through community-based learning activities such as *awareness of community, involvement in community, commitment to service,* and *sensitivity to diversity* should seek to measure the impact on students' psychological change as well as their sense of social responsibility (Gelmon, et al., 2001):

• **Awareness of community** seeks to determine if students had or developed a heightened awareness and understanding of community issues, needs, strengths, problems and resources.

• **Involvement with community** describes the quality and quantity of student interactions with the community, their positive or negative attitude about working with the community partner(s), a desire or importance of getting feedback from their community partner, and/or a recognition of the benefits they gain and the community partner gains through their relationship.

- **Commitment to service** is measured by looking at students' attitudes toward their current service and their plans for or concerns about future service commitments.
- **Sensitivity to diversity** is measured by students' expressed attitudes about working with communities with which they were not familiar, an increased comfort and confidence working with these communities, and recognition that they gain knowledge of a new community.

Concepts such as *career development, understanding of course content, and communication* serve as measures of impact on students' cognitive development. These concepts are indicated by students' ability to utilize the community-based experience to influence their career decisions or give them the opportunity to develop skills as productive members of society (Gelmon et al., 2001):
- **Career development** is measured in terms of the development of professional skills and increased student awareness of the skills needed for a person working in the field in which they were doing their service project. The concept is also measured by students' increased knowledge (both positive and negative) about their career of interest, as well as their understanding of the professional directions they might pursue.
- **Understanding of course content** is measured by the students' ability to make clear connections between the course goals and the work they are doing in their community-based projects.
- **Communication** is measured by students' recognition that they may have gained new communication skills, as well as the importance communication plays in the complex relationships presented in community-based learning experiences.

Self-awareness and sense of ownership are concepts that measure students' understanding of themselves as part of a learning community, and the skills and perspectives they and their colleagues contribute to the community project and the class. *Valuing of multiple teachers* addresses the idea that community-based learning experiences offer different teaching and learning modalities than traditional classrooms, and students may recognize that student colleagues, community partners and their faculty play different and important roles in their learning of these experiences (Gelmon et al., 2001):
- **Self-awareness** is measured by students' recognition and awareness of their own personal strengths and weaknesses as they relate to the completion of the course and their engagement in the community. This concept is also measured by the indication that a student's previously held beliefs might change or evolve due to his or her engagement in the community.
- **Sense of ownership** is measured by students' expressed autonomy and independence from the faculty member. The student's ability to see his or her community partner as a source of knowledge and that student's increased investment in the class by taking responsibility to provide the community partner with high quality outcomes are all indicators of this concept.
- **Valuing of multiple teachers** is measured by students' descriptions of the changing roles among faculty, students, and community partners, as well as students' recognition that student peers and community partners may at times shift into teaching roles, while the faculty may occupy the role of learner.

A completed conceptual framework for assessment of the impact on students of community engagement is included in Appendix A of this manuscript, and includes: (a) each of the concepts delineated above; (b) recommended indicators that will allow researchers to measure or observe the status or change occurring in the major focus areas of the assessment; (c) examples of corresponding methods; and (d) suggestions of the sources of data collection. The framework offers a comprehensive and systematic framework for assessment of student civic engagement activities, in the context of the work that has been discussed in this chapter so far. It offers a way to design and implement an assessment framework that is specific to the program or project being assessed. Each community-based experience may require its own unique set of variables depending on the purpose and goals of the assessment. For the reader's information, a matrix for faculty assessment is provided in Appendix B and one for institutional assessment is provided in Appendix C.

The student assessment matrix was developed to articulate measurement strategies most likely to produce useful and relevant data. A mixed methods approach to data collection is widely used to solve practical research problems (Creswell, 2003). According to Tashakkori and Teddlie (2003), "It incorporates techniques from both the quantitative and qualitative research traditions yet combines them in unique ways to answer research questions that could not be answered in other ways" (p. *x*). With less quantifiable psychological concepts, *interviews* and *focus groups* are methods by which students can explore perceptions of personal growth as it relates to civic engagement. Classroom observations, community observations, and surveys have the potential to capture the impact community-based experiences have on students' cognitive skills

development. As is the case with all data collected, in-person observations and individual and group interviews provide researchers with specific indicators of impact on students' cognitive growth that a survey may not capture. While each data collection method has advantages, there are also limitations as to the quality of the data that can be gathered through them. The uses, strengths and limitations of each of the data collection techniques using a mixed methods approach are more completely delineated in the literature; a lengthy list may be found in the second edition of *Program Evaluation Principles and Practice,* (Gelmon, Foucek, & Waterbury, 2005), found online at www.nwhf.org. Those who are new to evaluative research should acquaint themselves with the evaluation/assessment strategies proposed, and consider whether they have the research methods necessary to undertake a comprehensive and ultimately successful assessment.

Chapter Summary

Evidence that community-based learning makes a difference in students' educational experiences has significant implications for funding, resource allocation, program development, and institutional change. As a result, interest has grown by faculty, administrators, community partners, funders and policy makers in assessing the impact of community-based activities on student civic engagement. To underscore the importance of these activities, this chapter began by presenting a brief overview of the evolution and benefits of student civic engagement, followed by a literature-rich account of the importance and benefits of student civic engagement assessment as it is most commonly experienced through community-based learning activities. The heart of the chapter offered a framework for conducting assessments in general, and then guided readers through a step-by-step approach by which to develop, conduct and disseminate a thorough, yet practical assessment product on student civic engagement. A detailed matrix for student assessment is included in the appendices as the final contribution of this chapter, as well as detailed matrices for assessing the impacts of faculty and academic institutions in fostering community-based activities that promote civic engagement.

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Appendix A: Matrix for Student Assessment

Core Concepts *What are the major areas this program addresses?*	Key Indicators *What can we observe or measure to generate evidence?*	Methods and Sources *How will we collect the evidence and from whom or where will we obtain this information?*
Awareness of community	Knowledge of community issues Ability to identify comm. assets/needs Understanding of community strengths, problems, resources	Interviews and focus groups with students, faculty and community partners Classroom observations of students by faculty or evaluator
Involvement with community	Quantity/quality of interactions Attitude toward involvement Interdependence among partners/students Feedback from community	Interviews with students, faculty and community partners Focus groups with students and community partners Classroom observations of students by faculty or evaluator Community observations by faculty or evaluator
Commitment to service	Attitude toward current c-b experience(s) Plans for, and barriers to, future service Reactions: demands/challenges of service	Interviews with students, faculty and community partners Focus groups with faculty and community partners Surveys of community partners
Career development	Career decisions/opportunities Development of professional skills related to career Opportunity for career preparation from community-based experience	Surveys of students Interviews with students Focus groups with students
Self-awareness	Awareness of personal strengths, limits, goals, fears Changes in preconceived understandings Ability to articulate beliefs	Interviews with students Surveys of students Classroom observations of students by faculty or evaluator
Understanding of course content	Role of community experience in understanding and applying content Perceived relevance of community experience to course content	Interviews and surveys with students Community observations by faculty
Sensitivity to diversity	Attitudes/understanding of diversity Knowledge of new communities Self-confidence and comfort in new community settings	Interviews with students Surveys of students Community observations of students
Sense of ownership	Autonomy/independence from faculty Sense of role as learner and provider in partnership Responsibility for community project	Focus groups with students Classroom observations of students by faculty Interviews with students
Communication	Perceived skill development Recognition of importance of communication Demonstrated abilities (verbal & written)	Interviews with students and faculty Classroom and community observations of students by faculty or evaluator of students
Valuing of pedagogy of multiple teachers	Role of student peers in learning Perception and role of community partners in learning Role of faculty in learning	Focus groups with students, faculty and community partners Classroom and community observations with students, community partners

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Appendix B: Matrix for Faculty Assessment

Core Concepts *What are the major areas this program addresses?*	Key Indicators *What can we observe or measure to generate evidence?*	Methods and Sources *How will we collect the evidence and from whom or where will we obtain this information?*
Motivation and attraction of faculty to community-based learning	Level and nature of community participation Activity related to level of learner in courses/discipline Linkage to other scholarly activities Identification of motivating factors (value, rewards, etc.) Awareness of socioeconomic, environmental, cultural factors	Interviews and focus groups with faculty, students, and community partners Critical incident review of faculty by evaluators Curriculum vitae analysis by department chair, faculty peers
Professional development (support needed/sought)	Attendance at related conferences/seminars Participation in campus-based activities Leadership and mentoring role with others in promoting community-based activities Role in advocating c-b learning in academic societies	Curriculum vitae analysis by evaluators Interviews and focus groups with faculty, students and community partners
Impact or influence on teaching	Knowledge of community needs and assets Nature of class format, organization, activities Nature of faculty/students/community partner interactions Evolution of teaching and learning methods Articulation of philosophy of teaching	Interviews and focus groups with faculty, students, community partners Critical incident review of faculty by evaluators Critical incident review and curriculum vitae analysis through institutional resources
Impact or influence on scholarship	Scholarly collaborations around community-based learning Changes in research emphasis Changes in publication/presentation content and venues Changes in focus of research proposals, grants, and projects	Interview/focus groups with faculty/community partners Critical incident review and curriculum vitae analysis through institutional resources
Other personal or professional impact	Creation of partnerships with community organizations New roles with community organizations Mentoring of students Campus-based leadership role around c-b learning Commitment to community-based teaching and learning Role in department/program advocating c-b learning	Interviews and focus groups with faculty, students, community partners Critical incident review by evaluator Interview with department chair
Identification of barriers and facilitators	Strategies to capitalize on facilitators Methods and activities to overcome barriers Illustrations of creative problem-solving Ability to build upon barriers and create facilitators	Interview with faculty Focus group with community partner and students and Critical incident review by evaluator
Satisfaction with experience	Strengths and lessons learned Opportunities for improvement for future	Interviews and focus groups with faculty and students

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Appendix C: Matrix for Institutional Assessment

Core Concepts *What are the major areas this program addresses?*	Key Indicators *What can we observe or measure to generate evidence?*	Methods and Sources *How will we collect the evidence and from whom or where will we obtain this information?*
Engagement in community	Request for assistance from community Number of community-based learning activities and partnerships Level of student club activity in community service Level of community use of campus facilities Attendance at partnership events	Activity logs, schedule/catalog analysis, grant analysis/reports, facility/budget records through institutional sources Interviews with faculty, administrators and community partners
Orientation to teaching and learning	Number and variety of faculty adopting c-b activities Departmental agendas/budgets for service Number of faculty publications related to service Focus/content of faculty development programming Total number of service-learning courses offered/approved	Survey of faculty activity with faculty and administrators Interviews with chairs by evaluators Schedule/catalog analysis, budget report analysis, and CV analysis through institutional sources
Resource acquisition	Number of grant proposals/funded projects with community components Inclusion of service-related requests in development and fund-raising Level of giving to service-related donor funds Recognition/grants from foundations/others related to community-based activities	Grant/publication analysis through institutional sources including faculty and administrators Gift record/activity log review through institutional sources
Image/Reputation	Media coverage: campus, local regional, national Site visits by other campus teams and community partners Representation at conferences and in publications Quality and diversity of new faculty/administrator applicants Content of accreditation self-studies and reviews by site teams	Clipping/video reports through institutional sources Activity log analysis Publication analysis and registration lists Personnel records/interviews with faculty/administrators Interviews with faculty/administrators /community partners
Visibility of service and community-based activities on campus	Content of campus publications, schedules, videos web pages Awards of recognition for faculty, students, staff, partners Volunteer service by staff, administration, faculty, students Celebratory events related to service or including community	Interviews/surveys with faculty/staff, students and community partners regarding perceptions Publication/communication analysis Observation/review of institutional records
Infrastructure	Presence of organized support for service Dollars invested in infrastructure, faculty incentives/development Policy context: content of faculty handbook, student handbook	Organization charts through institutional sources Budget reports/requests through institutional sources Document analysis through institutional sources
Leadership	Local, regional, national roles of campus leaders Content of budget narratives, speeches or self-studies Community event participation Characteristics/qualifications of new hires	Document analysis/interviews with faculty/administrators Clippings/videos and/document analysis Interviews with faculty and administrators CV analysis through institutional sources

Gelmon, S. B., Holland, B. A., Driscoll, A., Spring, A., & Kerrigan, S. (2001). *Assessing the impact of service-learning and civic engagement: Principles and methods.* Providence, RI: Campus Compact

Assessing Course Student Engagement

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Beyond traditional indicators of instructional effectiveness (i.e., course learning outcomes, student satisfaction and retention), consideration of the impact of instructional activities on student engagement provides a more complete picture of the teaching-learning dynamic. In contrast to cognitive, content-based competencies, student engagement emphasizes the psychosocial dimensions relevant to the learning experience. These psychosocial dimensions include "the amount, type, and intensity of investment students make in their educational experiences" (Jennings & Angelo, 2006, p. 6). Assessment of student engagement allows faculty to monitor and adjust teaching strategies as a function of changes in students' motivation, attitude and involvement in their own learning process. This chapter provides faculty with techniques they can use to evaluate engagement in their own classroom.

Unlike a generalized view of college engagement which highlights retention, campus involvement and satisfaction (see Butler, 2011), course engagement encompasses a range of academic correlates including personality, affective, motivational and persistence factors. Course engagement goes beyond cognitive outcomes or active learning to "include attributes like intrinsic motivation, positive affect, persistence, effort and self-confidence" (Ruhe, 2006, p. 1). Engagement is driven by "students' willingness, need, desire and compulsion to participate in, and be successful in, the learning process," regardless of the particular disciplinary skills or knowledge of the course (Bomia, Beluzo, Demeester, Elander, Johnson & Sheldon, 1997, p. 294).

Promoting student engagement is a tacit goal in virtually all course activities. Going beyond cognitive and skill objectives, engagement highlights the attitudes and dispositions necessary for extending learning beyond the classroom experience to an intrinsic and lifelong pursuit. In the APA (2007) guidelines for the undergraduate psychology major, the value of engagement underlies three goals:

- Goal 4: Application of Psychology - Students will understand and apply psychological principles to personal, social, and organizational issues.
- Goal 5: Values in Psychology - Students will be able to weigh evidence, tolerate ambiguity, act ethically, and reflect other values that are the underpinnings of psychology as a discipline.
- Goal 9: Personal Development - Students will develop insight into their own and others' behavior and mental processes and apply effective strategies for self-management and self-improvement.

Attention to engagement provides a means for faculty to assess the non-cognitive competencies and skills inherent in these goals. For a detailed discussion of the relationship between student engagement and goals of undergraduate psychology majors, see Landrum (2011).

Recognizing the value of engagement, it is important for faculty to monitor course engagement as a function of instructional activities, assessments and overall course structure. In doing so, faculty can establish connections between disciplinary knowledge and skills and the psychosocial dimensions that support mastery of content. Moreover, assessing course engagement facilitates a scholarly approach to teaching that incorporates influences and outcomes beyond cognitive learning (Laird, Smallwood, Niskode-Dossett & Garver, 2009). The following provides an overview of both informal and formal measures of course engagement. Informal measures of engagement provide valuable formative data to guide instructional activities. Formal measures of student course engagement provide summative data to inform departmental initiatives about the contribution of a course to broader departmental objectives.

Informal Measures of Course Engagement

The complexity of student engagement mandates considerable variability in the means of assessing engagement in any given course. Broadly classified, there are three avenues for formative monitoring of course engagement (Jennings & Angelo, 2006):

- instructor observation of student behavior;
- administrative data such as attendance, course management system login times, assignment

submissions, adherence to assignment guidelines, etc.

- students' self-report of activity through course activity journals, focus groups or informal questionnaires.

Instructor Observations - Within a course session, specific dimensions of student engagement (i.e., interest, attitude, persistence) can be monitored as a function of students' behavior. Faculty may utilize classroom observations of student behavior as immediate indicators of engagement in response to a specific instructional strategy or class session. Franklin (2005) highlights characteristics of students who are engaged:

- Actively listen, focus attention and make eye contact
- Respond to teacher prompts
- Question, explore, brainstorm or discuss the learning topic with the teacher or each other
- Actively work with each other or the teacher
- Utilize decision making or problem solving skills in questioning and responding
- Actively participate (or volunteer to participate) in class activities
- Demonstrate body language that is open and relaxed, with appropriate smiles or laughter

Administrative Data – As a means of gauging student persistence, interest and/or effort in a course, instructors can examine existing course data such as attendance, course management login times, number of assignment submissions, adherence to assignment guidelines, and artifacts of student work. For example, learning management systems track the number of students who have accessed supplemental materials or utilized learning resources. Increased use of supplemental materials may be an indicator of increased interest or motivation in relation to the course topics. Similarly, attendance data can be used as one indicator of students' effort in a course. Key to analysis of students' coursework as an indicator of engagement is emphasis on the *process* of learning. As such, the emphasis would be on the degree to which students showed investment in their learning activities. This may be demonstrated through repeated drafts, attention to detail, or increased use of mastery learning strategies.

Self-Report - Self-report data provides the most direct indicator of students' psychosocial engagement with course material. Students' self-reported attitudes, activities and perceptions can be assessed through targeted course assignments or informal questionnaires. Within self-analysis assignments (such as journals), students can reflect on the connection between their preparation and their performance on an exam or write a reflection describing the strengths and weaknesses of the

process utilized to complete a paper. Similarly, instructors seeking quick, low-stakes feedback on students' perceptions, attitudes or motivations can implement informal, instructor-created questionnaires. Instructor-created questionnaires allow for the assessment of specific aspects of engagement relevant to course topics, teaching strategies or instructional modes. Key to the development of informal questionnaires is emphasis on student *engagement* rather than student *satisfaction*. Satisfaction measures may provide relevant data to guide instruction (and may include dimensions of engagement), but they position students as passive consumers of the educational experience (Jennings & Angelo, 2006). Engagement questionnaires should emphasize dimensions such as the amount of time students spend with course material, frequency and quality of course-related interactions with faculty and peers, and the active use of learning resources (Nauffal, 2010). Instructors seeking to create an informal student engagement questionnaire are advised to utilize formal measure of course engagement (see following section) as a guide for designing questionnaire items that are relevant and appropriate for assessing engagement.

Formal Measures of Course Engagement

Varied definitions of student engagement have led to the emergence of a number of different scales designed to measure students' investment in a specific course. Selection of a specific scale depends upon the alignment between target dimensions of each scale and the departmental initiatives driving the need for an engagement metric. Faculty should review each scale noting the relevant dimensions measured by the scale, then identify departmental or program goals that would be informed by the resulting data.

The Student Engagement (SE) Survey (Ahlfeldt, Mehta & Sellnow, 2005) adapts specific items from the National Survey of Student Engagement (NSSE, 2005, 2009, 2010) survey for use at the course level. The SE survey includes 14 key questions about course engagement. The target questions are included based on their relationship to student engagement at the course level with an emphasis on collaborative learning, cognitive development and personal skills development. Items in the SE Survey are measured on a scale of 1 (*very little/never*) to 4 (*very much/often*); sample items include:

1. During your class, about how often have you done each of the following?
  a. Asked questions during class or contributed to class discussions

b. Worked with other students on projects during class time
c. Worked with classmates outside of class to complete class assignments
d. Tutored or taught the class materials to other students in the class
b. To what extent has this course emphasized the mental activities listed below?
c. Memorizing facts, ideas or methods from your course and readings so you can repeat them in almost the same form
d. Analyzing the basic elements of an idea, experience or theory such as examining a specific case or situation in depth and considering its components
e. Synthesizing and organizing ideas, information, or experiences into new, more complicated interpretations and relationships
f. Evaluating the value of information, arguments, or methods such as examining how others gathered and interpreted data and assessing and accuracy of their conclusions
g. Applying theories and/or concepts to practical problems or in new situations
h. To what extent has this course contributed to your knowledge, skills, and personal development in the following ways?
i. Acquiring job or career related knowledge and skills
j. Writing clearly, accurately, and effectively
k. Thinking critically and/or analytically
l. Learning effectively on your own, so you can identify, research, and complete a given task
m. Working effectively with other individuals

Smallwood and Ouimet (2009) also modified the broad NSSE College Student Report with a focus on faculty and student perceptions of engagement in a specific course. Companion measures, the Faculty Survey of Student Engagement (FSSE) and the Classroom Survey of Student Engagement (CLASSE) are adaptations of the NSSE that draw on course-level factors to identify discrepancies between student and faculty reports of engagement. Faculty who have utilized CLASSE report that it prompts reflection on their teaching strategies, increases communication with students about learning opportunities, and fosters a cooperative environment for student-instructor feedback and interaction (Ouimet & Smallwood, 2005).

Langley (2006) developed a similar scale, the Revised Student Engagement Index, to identify specific measures of classroom engagement aligned with each of the NSSE's benchmarks for higher education. For each benchmark, key dimensions of engagement are identified along with relevant assessment items; sample items include:

Benchmark 1: The Level of Academic Challenge:
- Effort
  - I was challenged by the overall amount of material to be learned.
- Time
  - I needed to spend a significant amount of time on class material to be successful.
- Student/Instructor Expectations
  - I set high expectations for my achievement.

Benchmark 2: Student/Faculty Interactions:
- Access to Contact with Instructor
  - My questions about course assignments were answered in a timely manner by the instructor.
- Quality of Teacher Feedback
  - I received useful feedback from the instructor on tests and class assignments.
- Teacher/Student Relationships
  - I felt the instructor was approachable to discuss class-related issues.
- Encouragement/Commitment/Interest
  - I developed enthusiasm and interest to learn more about class content.
- Supportive Class Environment
  - My performance in this course was directly related to the positive learning environment created by the instructor.
- Clarity/Organization
  - I was able to understand class material because it was presented clearly and in a well-organized fashion.

Benchmark 3: Active and Collaborative Learning:
- Active Learning
  - I participated actively in most class learning experiences.
  - Collaborative/Independent Learning
  - I frequently worked with other students to solve problems in class.

Benchmark 4: Enriching Educational Experiences:
- Diversity Issues
  - I was challenged to reconsider my point of view on some course topics.
- Integration/Synthesis/Application of Knowledge
  - I developed the ability to solve real problems in my future profession.
- Enriching Personal/Professional Experiences
  - I developed stronger analytical skills for examining issues presented in class.
- General Technology Issues

- Appropriate technology tools were effectively used to communicate the content.

The Student Course Engagement Questionnaire (SCEQ; Handelsman, Briggs, Sullivan & Towler, 2005) assesses four types of engagement: (a) skills engagement, (b) emotional engagement, (c) participation/interaction engagement and (d) performance engagement. Each component is characterized by specific behaviors, attitudes or motivations related to course content:

Skill engagement involves general learning strategies and behaviors that promote academic success. Sample survey items relevant to skill engagement include:
- Making sure to study on a regular basis
- Staying up on the readings
- Coming to class every day
- *Emotional engagement* includes affective components in which students internalize learning through an emotional connection to course material. Sample survey items relevant to emotional engagement include:
- Finding ways to make the course material relevant to my life
- Applying course material to my life
- Really desiring to learn the material
- *Participation/interaction* engagement involves students' willingness and desire to interact with the instructor and/or peers about the course content. Sample survey items relevant to participation/interaction engagement include:
- Asking questions when I don't understand the instructor
- Participating actively in small-group discussions
- Going to the professor's office hours to review assignments or tests or to ask questions
- *Performance engagement* targets students' emphasis on relative performance on outcome measures. Sample survey items include:
- Getting a good grade
- Doing well on the tests
- Being confident that I can learn and do well in the class

Research (Handelsman et al., 2005) indicates that these course engagement factors are reliable self-report metrics of student engagement. The target course engagement factors provide instructors with valuable information concerning students' engagement beyond what is visible in classroom interactions.

Conclusion

Student course engagement is an integral component of a successful learning experience. As such, faculty must implement strategies to monitor and assess course engagement to ensure that instructional and assessment activities encourage students' active participation in the educational process. Informal, formative assessments of engagement provide faculty the opportunity for real-time pedagogical interventions. As a complement to informal assessments, formal, summative scales are useful metrics to gauge student engagement as a component of departmental assessment initiatives. Taken together, assessments of student engagement expand faculty perceptions of course effectiveness beyond cognitive learning to address the psychosocial dimensions that support and sustain learning across courses, programs, and beyond the collegiate experience.

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Working with Students to Promote Engagement in Departmental and University-Wide Assessment

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We would like to share a unique approach on how we promote student engagement in assessment at our respective universities. Rather than viewing assessment as something that we do *to students*, we adopt an alternative view that our assessment can be significantly improved when assessment is something that we do *with students*. Specifically, we recruit students to take on important roles to design, collect, analyze, write up, and audit our assessment activities. As a result, students are key stakeholders who engage in all phases of our assessment programs. Our first example showcases student involvement in department-level assessment at James Madison University (JMU), and our second example showcases student involvement in university-level assessment at University of Nebraska at Kearney (UNK). We conclude by highlighting benefits that our programs and students have experienced by working together on our assessment.

Involving Students in Departmental Assessment

At JMU, the first author created an advanced, undergraduate psychology course on assessment and program evaluation. The purpose of this course is to train students in assessment and program evaluation and to expose students to potential careers in these areas. But more importantly, this course provides students hands-on, real-world experiences in assessment and program evaluation by working closely with our annual assessment of JMU's undergraduate psychology program. We structure the course into five, distinct phases.

In the first phase, to develop students' competence and background knowledge, we engage in general readings on assessment and program evaluation and specific readings highlighting assessment of undergraduate psychology programs. For general readings, we draw from the growing literature on assessment of higher education such as Suskie's (2009) *Assessing Student Learning: A Common Sense Guide*, Walvrood's (2004) *Assessment Clear and Simple: A Practical Guide for*

Institutions, Departments, and General Education, and Banta, Jones, and Black's (2009) *Designing Effective Assessment: Principles and Profiles of Good Practice*. In addition, Sage Publishing offers a number of general texts on program evaluation, such as Holden and Zimmerman's (2009) *A Practical Guide to Program Evaluation Planning: Theory and Case Examples*. For specific readings related to assessing undergraduate psychology programs, we consider Dunn, Mehrotra, and Halonen's (2004) *Measuring Up: Assessment Challenges and Practices for Psychology*, Halpern's (2010) *Undergraduate Education in Psychology: A Blueprint for the Future of the Discipline,* and the American Psychological Association's (2009) *The Assessment CyberGuide for Learning Goals and Outcomes* to be among the best resources available. The first phase ensures students appreciate that assessment is a continuous process of (a) establishing student learning outcomes, (b) developing curriculum and interventions to promote learning outcomes, (c) adopting valid and reliable measures to assess learning outcomes, and (d) using the results to identify areas of success and areas in need of improvement. Our readings also serve as key resources on best practices as students actively engage in each phase of the assessment process for the remainder of the semester.

In the second phase, students help plan and design our annual assessment of the undergraduate psychology program. We begin by reviewing our past departmental approaches to assessment and reading our previous annual assessment report. Students carefully reflect on each of our stated student learning outcomes and our past approaches to assess each outcome. This phase of the class generates rich debate on which outcomes are adequately being assessed by our existing approaches, and which outcomes and approaches should be rethought. Students have also proposed and created new assessment tools to improve our department's ability to assess key outcomes. For example, our students recently developed a journal critique exercise to evaluate students' ability to read professional

literature to better assess students' critical thinking and research methodology skills.

In the third phase, students help collect and analyze our assessment data. At JMU, we are fortunate to have a campus-wide assessment day held each Spring when we are able to collect data on all of our graduating senior psychology majors. Students enrolled in our assessment and program evaluation class serve as proctors who help administer and oversee different assessments on this day. In addition, our students play a substantial role in all data analyses. We collect an extensive array of quantitative and qualitative assessment outcomes, and each student in our class takes on the primary responsibility to analyze at least one quantitative data set and one qualitative data set. During this phase, we read about how to code and analyze qualitative data. We also refresh students' skill sets on how to analyze quantitative data. We should highlight that the only major prerequisites for our assessment and program evaluation course are completion of our two-semester statistics and research methods coursework and a demonstrated interest in helping the department in assessment. An important goal of our assessment and program evaluation course is to continue to train and develop students' skills in data analyses, and we have had success involving students with varying levels of statistical skills.

In the fourth phase, students help communicate our assessment findings. Specifically, each student is responsible for preparing a portion of our end-of-the-year assessment report, which is submitted with our annual departmental report to the university. Students also prepare oral and poster presentations of our assessment findings for our annual departmental research symposium. As a bonus activity, some of our students have presented our assessment findings at professional conferences.

The fifth and final phase of the class involves having students reflect on our overall assessment strategy. Each student submits a formal audit of the methods and measures that we used over the current year, and recommends what to continue and what to revise for future assessment of the undergraduate psychology major. We use students' end-of-the-year audits to help establish our assessment goals and priorities for the next academic year.

Involving Students in University-Wide Assessment

At UNK, to involve and broaden the role of students in the assessment process at the university level, the second author (who is Director of Assessment at UNK) formed a Student Assessment Committee composed of representatives from all four colleges and from student government. The committee was established to represent students' concerns about assessment issues, provide a forum for the collection of data on areas of concern for students, and to disseminate information to educate their peers about assessment. Since 2004, the committee has developed and administered surveys to the student body on a variety of topics of concern to students, and over 25 students have served on the committee.

The first members of the committee expressed their vision for the group in a letter to the Chancellor and Vice Chancellor of the university:

The Student Assessment Committee is interested in developing a Culture of Assessment in which all groups involved in assessment at the university can be involved and contribute to the decision making process. This includes faculty, administration, staff, and *students*. We believe that the key is to first get student representatives involved in the assessment process to give voice to student concerns and interests in assessment. It is our goal to facilitate the inclusion of student input about programs and services on campus for consideration in future decision making. It is the hope of this committee that all students can become active participants in the assessment process, which will result in data-based decision making. This will strengthen communication between students, faculty and administration concerning major issues on campus. This collaboration will bring about positive changes in developing the assessment culture at UNK.

The Student Assessment Committee members have conducted data collection projects on (a) student perceptions of the General Studies program, (b) student perceptions of academic advising at UNK, (c) student involvement/engagement at UNK, and (d) students' preferred teaching techniques. Below we discuss the general process that we follow for a project and the role that the Student Assessment Committee takes at each step of the process. We then share specific details about our project involving student perceptions of the General Studies program.

Each project follows a similar process under the guidance of the second author who is the committee advisor and a member of the committee. The six student members of the committee first identify a topic for study. Discussions within the committee about possible topics are based on each student's experience and interests, as well as discussions with fellow students in their colleges and departments. In some cases ideas for topics come to the committee from individuals on campus, such as the Director of General Studies. The committee members reach

consensus on the topic and present the idea to the Director of Assessment for final approval. Next members of the committee determine whether an existing survey could be used to collect the data or whether a new survey needs to be developed. The committee finalizes the survey, obtains IRB approval, and implements the survey online using Qualtrics. The committee then sends the on-line survey by email to a representative sample of students at UNK that include respondents from all majors and class years. After thirty days the survey is closed and student members of the committee conduct appropriate data analyses. The final step in the process includes all committee members presenting the results of the survey to faculty, administration, and students. The committee makes presentations to Faculty Senate, Student Senate, the Deans Council, and the Council of Chairs. The committee also writes an article for the student newspaper and provides a report to the Senior Vice Chancellor of Academic and Student Affairs (SVCASA) and to the Deans. The Assessment Office places the report, survey, and any other relevant information on the assessment website making it available to all stakeholders including parents, students, university regents, and any interested individuals in the community. In addition, students have presented results at regional professional conferences.

One of the Student Assessment Committee's data collections that significantly impacted programs and processes at the university was a study focusing on student perceptions of the existing General Studies (GS) program at UNK. The Director of General Studies speculated that students didn't understand the purpose of GS or recognize the connections among the disciplines represented in the program. In addition, the university was exploring the possibility of making changes to the GS program. The committee decided to ask students about their perceptions of the current GS program, including their view of the strengths and weaknesses of the program. Students confirmed that many were unclear about the reasons for taking GS courses and the relationship among the courses within different disciplines. The respondents identified strengths of the program including that the program helped develop values and social responsibility, provided a global perspective, and focused on multi-cultural issues. Students also identified areas for improvement in the program. These included the need to clarify the purpose and goals of the program, to identify ways of increasing students' understanding of the program, and to make major changes to the structure and content of the program. The Office of Assessment conducted a parallel survey with faculty and found that many faculty did not have a clear understanding of the purpose and goals of the GS program and also saw areas for improvement. Using the results of the two surveys and input from the Higher Learning Commission on the need for more rigorous assessment of the GS program at UNK, the SVCASA and Director of General Studies started the process for renewal of the GS Program at the university. In 2010, the university began implementation of a new GS program that addressed the concerns and recommendations of both students and faculty identified in the Student Assessment survey.

Concluding Remarks and the Benefits of Working with Students

Although we just started working with students in JMU's departmental assessment, we can already highlight a number of major benefits. First, the Department of Psychology has greatly benefited. The creation of an assessment and program evaluation course has enabled our departmental assessment coordinator (who is the instructor of our assessment course) to have additional time and the added resources of a reliable student research team to help with all phases of the assessment process. Far too often, faculty asked to coordinate departmental assessment lack the time and resources to accomplish what is needed to run an effective assessment program. Second, students have greatly benefited. As a result of our semester long activities, students solidify and advance their skill sets on a wide array of learning outcomes involving research methods, statistics, communication, and the application of psychology. We also are struck by students' greater valuation for assessment after participating in the course. This has ranged from students becoming vocal advocates and supporters of assessment with their peers, pursuing minors and advanced coursework in statistics and measurement, to changing career paths and applying to assessment and measurement programs for graduate school.

Similarly, the activities of the Student Assessment Committee at UNK have benefited both the university and student members of the committee. The Student Assessment Committee has provided the university with an active voice for student concerns through the studies that have been conducted and the dissemination of that information throughout the campus. The committee also ensures that all stakeholders on campus, including students, are actively involved in the assessment process. Finally, the committee has provided faculty and administration with information on student perceptions of various aspects of their academic experience at UNK to encourage a data-driven

decision making process. Participating as a member of the committee has also had an impact on the individual members of the committee. Student members have an opportunity to apply current learning from their coursework to real world problem solving and research situations. They have developed skills in research problem identification, needs assessment, survey development, use of survey software, data analysis, use of SPSS, and in development and delivery of written and oral presentations. Membership on the committee has also increased students' understanding of academia and how a university works. Some members of the committee have made career choices as a result of their work on the committee and several students have been accepted into graduate programs as a result of the skills they developed and the experiences they obtained as members of the committee.

In closing, our chapter offers an alternative approach to the existing assessment literature by showcasing the benefits of actively involving your students in running your assessment programs. Now that we have adopted the model of collaborating with our students and including students as key stakeholders in our assessment programs, it would be hard to imagine going back to previous approaches. As there is less literature available on this approach, we encourage readers to contact us for more information (e.g., syllabi or other material) on involving students in either departmental or university-wide assessment.

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Secret Agents, Alien Spies, and a Quest to Save the World: Engaging Students in Scientific Reasoning and Critical Thinking through Operation ARIES!

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Operation ARIES! is an interactive educational game that teaching critical thinking and scientific reasoning. On one hand Operation ARIES! is an educational tool that was developed by experts in the learning sciences, but on the other hand it is a fantasy game with a science-fiction plot and students compete against other players using the knowledge they learn. Operation ARIES! was designed for advanced high school students, undergraduate university and college students, and soldiers in the military. Students learn the material by engaging in interactive conversations with agents that adapt to their skill level, by applying the acquired knowledge in critiques of ecologically valid case studies, and by generating their own questions about incomplete research while interrogating suspected alien scientists.

The game can be adopted and implemented by educators in various ways. First, it is appropriate for introductory courses in science (e.g., psychology, biology, and chemistry), critical thinking, and research methods. Second, students can complete Operation ARIES! in 15-25 hours as an in-class activity, as a homework assignment, or combination of the two. Third, because the game includes different modules or levels, it is possible for educators to pick and choose which will be most applicable to their needs. Operation ARIES! is published by Pearson's Education. The purpose of the present chapter is to introduce interested readers to the science behind Operation ARIES!

Operation ARIES!

Your mission: to expose the aliens who endeavor to take over Earth by stealing our natural resources, spreading bad science, and lulling mankind into mindless consumerism. These aliens must be stopped. As an agent with the Federal Bureau of Science, you will receive the latest training methods to spot aliens posing as human scientists, you will identify the flaws in research from a variety of fields, and you will interrogate suspected alien spies. This is the science-fiction plot behind Operation ARIES!, an Intelligent Tutoring System (ITS) that teaches scientific reasoning and critical thinking skills. Student players become Federal Bureau of Science agents-in-training charged with defending Earth from aliens who are intent on destroying it. To defend Earth, student agents must learn the principles of the scientific method and critical thinking. The student players then must use these principles to evaluate case studies and interrogate suspected alien scientists.

Figure 1. Operation ARIES! Logo.

The importance of critical thinking skills cannot be understated. In a recent survey, 81% of employers listed critical thinking skills as a top priority for new employees (AAC&U, 2010). The United States Bureau of Labor Statistics for 2010-2011 reports that "knowledge workers" or "symbol analysts" are in high demand. As such, workers who can complete multi-step operations, manipulate abstract symbols, understand complex ideas, acquire new accurate information efficiently, and exhibit flexible thinking will be highly employable, and necessary for the economic and political progress of any nation.

Critical thinking has been defined in various ways, but researchers generally agree that critical thinking achieves a desired outcome by thinking rationally in a goal-oriented fashion (e.g., Ennis, 1993; Halpern, 2003; Moseley et al. 2005; Sternberg, Roediger, & Halpern, 2007). Halpern (2003) defined critical thinking as: the use of those cognitive skills or strategies that increase the probability of a desirable outcome. It is used to describe thinking that is purposeful, reasoned, and goal directed--the kind of thinking involved in solving problems, formulating inferences, calculating likelihoods, and making decisions, when the thinker is using skills that are thoughtful and effective for the particular context and type of thinking task. (p. 6).

Critical thinking is both a collection of learned skills and a disposition towards information (Halpern, 2003). Critical thinkers are more flexible, more deliberate information processors (or more intentional in how they process information), more informed decision makers, and are more persistent than non-critical thinkers who may accept as truth (without questioning the validity of) any and all information presented to them. A wealth of evidence suggest that critical thinking skills can be learned and critical thinking disposition can be developed (for reviews, see Chance, 1986; Halpern, 2003; Moseley et al. 2005; Nisbett, 1992). Educators can teach critical thinking explicitly in the form of critical thinking or problem solving courses, and can teach critical thinking in other courses either explicitly or imbedded in the coursework (Marin & Halpern, 2010). One aspect of critical thinking that Operation ARIES! targets is scientific reasoning.

Scientific reasoning is a process to ask and answer questions about the world. It involves understanding the scientific method and using that understanding to conduct research and evaluate the research of others. However, scientists are not the only people in need of good scientific reasoning skills. We live in a world that is more complex and technical with each passing day and we are constantly bombarded with pseudoscientific persuasive messages. Consumers today may encounter hate websites disguised as science or may encounter advertising that offers scientific-sounding explanations for a products' effectiveness. Without a background in research methods or scientific reasoning skills, consumers could be susceptible to the false claims made by the media. At best, consumers could be wasting money on ineffective products; at worst, they could be putting their health or wellbeing in jeopardy. Consumers need to arm themselves with an arsenal of good thinking skills in order to guard against such claims and persuasive messages, and Operational ARIES! provides a solution to that need in a highly engaging game.

Operation ARIES! is an agent-based Intelligent Tutoring System (ITS) that uses artificial pedagogical agents and natural language processing to teach the student aspects of the scientific method. Operation ARIES! utilizes an architecture similar to that of Autotutor (Graesser, Wiemer-Hastings, Wiemer-Hastings, Kreuz, & the Tutoring Research Group, 1999; Graesser, Person, Harter, & Tutoring Research Group, 2001), an ITS which instructs students on physics (VanLehn, Graesser, Jackson, Jordan, Olney, & Rose, 2007) and computer literacy skills (Graesser, Lu, Jackson, Mitchell, Ventura, Olney, & Louwerse, 2004) through mixed-initiative dialogue. This type of dialogue allows either the artificial agent or the human to direct the flow of the conversation. Autotutor produced learning gains comparable to one-on-one human tutoring (Graesser, Chipman, Haynes, & Olney, 2005; Graesser, Lu et al., 2004; Graesser, et al., 2001; VanLehn, et al., 2007).

Operation ARIES! employs the scientific principles of learning and serious games. Students are engaged in the material using the pedagogical principles of active learning, immediate feedback, dialog interactivity, multimedia effects, distributed practice, and transfer of learning. "Hard fun" (Papert, 1980) is another principle that may increase the success of educational or epistemic games (Schaeffer, 2006). This phenomenon describes the resulting sense of satisfaction students experience after struggling to understand a difficult topic. That is, the student's enjoyment should increase as the game moves from teaching basic declarative knowledge in the first module to the use of this knowledge in the analysis of ecologically valid cases in the later modules.

Operation ARIES! entails three modules: a training course, the evaluation of case studies, and the interrogation of suspected alien spies. The story-line continues to twist and turn through the first two modules ending in the fantastical climax and surprising resolution in the final module. In a similar fashion, the curriculum builds on itself and becomes increasingly more challenging across the three modules. The first module, the training course, teaches scientific concepts that are shared among the fields of psychology, biology, and chemistry. Student players learn twenty-one important scientific concepts including both the definition and function of specific topics such as theories, hypotheses, falsification, operational definitions, independent variables, and dependent variables (see Table 1 for a complete list).

The content of the training course is delivered through an e-book, multiple choice questions, and natural language conversations. The e-book contains

Table 1

A list of the topics presented in Operation ARIES!

Topics Presented in Operation ARIES!
Theories and the Experimental Method
Hypothesis
Science and Pseudoscience
Operational Definitions
Independent Variables and Participant Variables
The Dependent Variable
Dependent Variables: Reliability, Accuracy, and Precision
Dependent Variables: Validity
The Dependent Variable: Objective Scoring
Replication of Results
Experimental Control
Control Groups
Random Assignment to Groups
Subject Bias
Attrition and Mortality
Representative Samples
Sample Size
Experimenter Bias
Conflict of Interest
Causality vs. Correlation
Drawing Conclusions: Generalizability

illustrated chapters written from an alien's perspective and includes several vivid examples of each concept, as well as humorous descriptions of common misconceptions (see Figure 2 for a sample page taken from the training module). Perceived student control is an aspect present in many successful video games because it allegedly increases engagement. Therefore, Operation ARIES! allows students to have control over whether or not they read the chapter. Advanced students can skip chapters by demonstrating a proficient standard of performance, or they can choose to refresh their memory of the concept by reading the chapter. This autonomy and adaptation reduces the frustration and boredom associated with having to relearn concepts familiar to the learner. Affective states, such as boredom, are associated with poor learning and poor behavioral outcomes (Baker, D'Mello, Rodrigo, & Graesser, 2010) and are detrimental to student learning and engagement.

At the conclusion of each e-book chapter, students complete a multiple-choice posttest and engage in tutoring "trialogs." A trialog is a conversation between two artificial pedagogical

Figure 2. An example page taken from the training module.
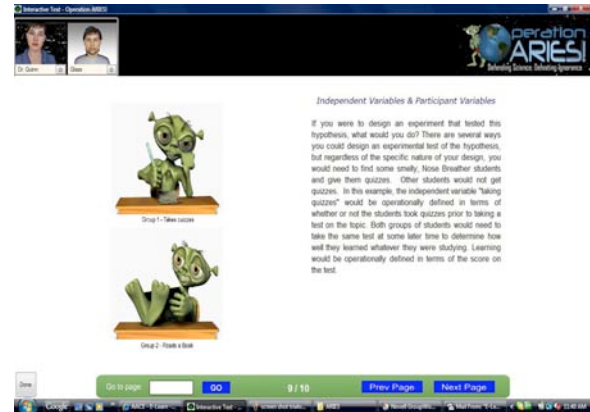
agents and a human student. In the context of this game, the students are tutored on each scientific concept in trialogs with two avatars, a virtual teacher (Dr. Quinn, an FBS handler) and a virtual student (Glass, a fellow agent-in-training). The human students interact with the avatars using natural language dialogue. To assess and guide the student to a deeper understanding, natural language processing tools recognize the human student input and respond with appropriate feedback, hints, prompts for information, assertions, and misconception correction. An example conversation appears in Appendix A.

Figure 3. Human students engage in interactive trialog with these animated agents.
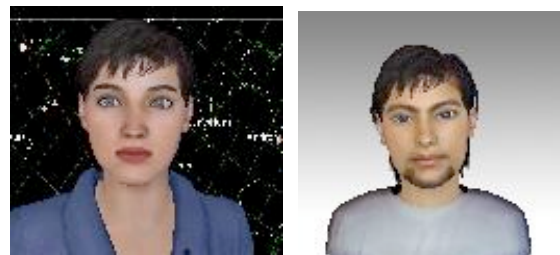
Effective tutors need to gauge and adapt to the student's current level of understanding. Proposed criteria for a successful adaptive tutor include choosing problems that specifically address the student's lacking knowledge and taking previous test scores into consideration (Graesser, D'Mello, & Cade, 2009). In compliance with these criteria, students are adaptively placed in one of three tutoring conditions by their scores on the previous multiple

choice tests. If the human students demonstrate a low-level understanding of the concept, they receive the *vicarious learning* trialog where they observe the virtual teacher tutoring the virtual student. Vicarious learning conditions have shown significant learning gains specifically for low prior-knowledge students (Driscoll, Craig, Gholson, Ventura, Hu, & Graesser, 2003). To maintain engagement, the students respond to the tutoring situation. For example, the virtual teacher might ask the human student whether the virtual student understands the concept or whether the virtual student's answer was correct. If the human students demonstrate a moderate understanding of the concept, they receive the *standard tutoring trialog*. For example, the virtual teacher might ask the human student to define the concept and scaffold the student by or with hints, prompts, feedback and misconception correction. If the students demonstrate good understanding of the concept, they interact with the *teachable agent trialog* and the human student tutors the virtual student. For example, the virtual student might tell the human student that they do not really understand the concept and offer an incorrect explanation. The human student would then have to explain to the virtual student what the concept is and why they were incorrect (see Figure 3 for an example of the animated agents). After completing the training course, the students graduate to a higher level of training where they apply their new skills to real cases.
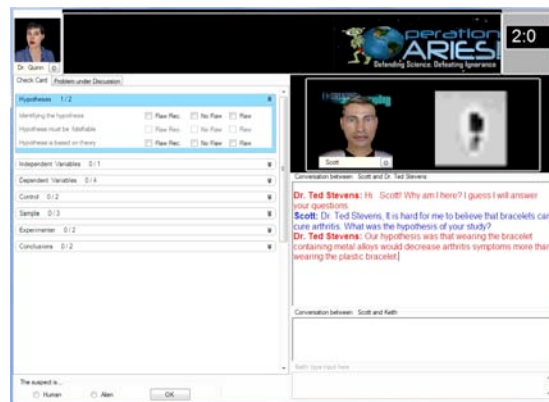
Figure 4. An example of the case studies module.

The second module of Operation ARIES! is the case studies module (see Figure 4 for a an example of the case studies module). In this module, human students play against a sassy (and frequently obnoxious) avatar in a competitive game testing for transfer of the knowledge from the training module to ecologically valid cases. Each case describes published research in an ecologically valid way (e.g., a newspaper article written about a new study, a research abstract, a bloggers description or reaction to published research, etc.), and each case may contain flaws. The students and avatar compete to identify the flaws in the research, and earn points on the number of correctly identified flaws and lose points on the number of falsely identified flaws or missed flaws. A sophisticated algorithm ensures that the competition between the two players is close, thereby encouraging interest and engagement. Scaffolding is provided to struggling students who can purchase a list of potential flaws for points. As the module draws to a close, the plot of the alien invasion thickens and it becomes necessary for the human student (now a secret agent) to interrogate a series of suspected alien scientists.

Figure 5. An example of the interrogation module.

The third module is the interrogation module (see Figure 5 for an example of the interrogation module). In this module, students interrogate captured scientists about their research to uncover their true identity as either an alien or a human scientist. Whereas poorly conducted research indicates that the scientist is an alien posing as a human scientist, properly conducted research indicates that the scientist is really a human. Unlike the more complete descriptions provided in the case studies module, the research described in this module is incomplete. Accordingly, students must question the sometimes hostile scientists and determine when enough information has been gathered. Ultimately, the students decide whether the scientist is a human or an alien based on the quality of the research and earn points for correctly identifying alien scientists and loose points for false accusations.

The intricate plot of Operation ARIES! is threaded throughout the modules to promote engagement. Plot, agency, and emotions play an integral part in maintaining reader interest (Brewer &

Lichtenstein, 1981; Brewer & Ohtsuka, 1988). Surprise, suspense, and curiosity are three emotions that can be used to encourage reader interest and in turn to impact comprehension. For example, information can be released at a critical time in order to surprise the reader. This occurs several times in Operation ARIES! when, for example, the human student discovers that a fellow agent is having an inter-species love affair with an alien defector. Suspense can be built by withholding the outcome of a story from the reader. Graesser and Klettke (2001) pointed out that this literary tension can be extended over a period of time, and clever writers create false alarm episodes that draw-out the suspense of a plot. In some sense, the entire Operation ARIES! game is a battle of wits with aliens with the fate of the Earth hanging in the balance. In addition, smaller mysterious events are also dispersed throughout the experience to increase the suspense. Curiosity can be evoked by telling the reader the outcome before the reader knows the steps that led to the outcome. Operation ARIES! evokes curiosity by means of emergency "breaking news" reports and email messages. Students receive messages that lakes are disappearing and that strange metallic formations have begun to form all over the world, but they are not told how these events occurred, what these formations are, who made these events happen, or why they are happening. Thus, Operation ARIES! evokes a variety of emotions to maintain student interest and improves cognitive processing of the material.

Of interest to educators is that Operation ARIES! is also a valuable assessment tool. Educators can track student progress in a variety of ways. In the training module, educators can track the number of questions correctly answered after reading the chapter, the tutorial style during the tutoring trialogs, or the qualitative responses during the tutoring trialogs. In the case studies module, students compete against a sassy avatar for points that could indicate correctly applied knowledge. In the interrogation module, students accrue points, generate questions to ask the suspected alien scientists, and make dichotomous decisions about the validity of research. Thus, Operation ARIES! can provide educators with both quantitative and qualitative data to assess student learning.

Operation ARIES! is an innovative way to teach research methods and critical thinking. It utilizes the principles of learning and serious games to engage students in thinking critically about the information they consume. Operation ARIES! meets the needs of advanced high school students, undergraduate university and college students, and soldiers in the military. It has a variety of applications, but was designed to accompany introductory science, research methods, and critical thinking courses. Students learn the material by engaging in interactive trialogs that adapt to their skill level. Then they apply the learned knowledge by evaluating ecologically valid case studies and competing against other players. Finally, the students must generate their own questions about incomplete research while interrogating suspected alien scientists. Operation ARIES! can be used as an in-class activity, assigned as homework, or a combination of both. It takes between 15-25 hours to complete. Student progress can be assessed throughout the game yielding both qualitative and quantitative data. Thus, while Operation ARIES is an engaging game for students, it is also a valuable resource for educators who are devoted to teaching not only shallow but also applied knowledge which helps students reach a deeper-level of understanding.

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APPENDIX A: Example Script

This is an example script highlighting the scaffolding methods used by the artificial agents during interaction with a real human.

QUESTION: Glass: Okay, I know operational definitions are important in research, but I'm not sure why.

HINT: Glass: Let's just go over the importance of these things one more time. Why do we need to have operational definitions?
Human: so that they can be reliably measured and used by other researchers

NEUTRAL FEEDBACK: Glass: OK.

PUMP: Dr. Quinn: Um, can you add to that?
Human: it is important to create operational definitions because they provide a basis for
measuring variables and so that they can be reliably measured and used by other researchers in other studies.
Glass: That is not clear to me.

HINT: Glass: I thought operational definitions had something to do with telling others about your study. What could that be?
Human: how to measure a variable
Glass: I still don't understand.

PROMPT: Glass: Wow, it seems like operational definitions have something to do with being able to reliably do something. What is that something?
Human: measure a variable

NEUTRAL FEEDBACK: Dr. Quinn: Okay.

CORRECT PROMPT COMPLETION: Dr. Quinn: reliably recognize variables

PROMPT: Glass: I'm remembering something about how operational definitions make it so that a variable means the same thing to all researchers. That means that when other researchers use the same variable, it is what?
Human: reliable

POSITIVE FEEDBACK: Dr. Quinn: Great!
Dr. Quinn: it is reliable
Glass: Yeah, I understand.

SUMMARY: Glass: Operational definitions are important to consider because they allow a particular variable to be reliably recognized, measured, and understood by all researchers.

I Have One Question: Engaging Students through Formative Assessment

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In 1998, Paul Black and Dylan Wiliam published the first comprehensive meta-analysis regarding the impact of formative assessment strategies. They sought any study that examined the impact of formative assessment, which they defined as occurring when assessment data are "actually used to adapt the teaching to meet student needs" (Black & Wiliam, 1998, p. 140). After examining 681 publications, they concluded that formative assessment has the potential to profoundly impact student learning, especially for "at risk" students, and that "these effect sizes are larger than most of those found for educational interventions." (p. 141). This meta-analysis has been cited over 2,129 times (data from Google Scholar http://scholar.google.com/). It seemed as if a powerful new tool for teachers had been "discovered", and formative assessment would revolutionize classroom practice.

Part of my job as an assessment specialist is to talk to teachers about their classroom assessment practices. Many teachers are underwhelmed by this formative assessment revolution. When I talk with teachers about assessment, the over-arching context of grades, gradebooks, points, and averages (summative assessment) intrudes and dominates the discussion. Teachers often focus on how much formative assessments could or should be "worth" in grade calculations instead of focusing on the value of the assessment information for informing teacher and student thinking.

I can relate to this mind-set about classroom assessment. During my thirteen years as a high school psychology teacher, my assessment practices focused exclusively on grade calculations. This narrow focus is not a surprise: Assessment training is not emphasized in many teacher and administrator preparation programs (Shepard, 2000; Stiggins, 2002) and even when assessment is discussed, formative uses of assessment data are not emphasized. The initial challenge of any formative assessment discussion is to widen the conversation beyond grades and "re-frame" assessment as a conversation about how to get information about student's thinking, rather than to evaluate students.

So we are left with a problem: Black and William's (1998) meta-analysis indicates that using assessment data in a formative way can help students learn and increase motivation, especially students who have low self-efficacy in a course (Stiggins, 2007). But teachers and administrators focus on summative uses of assessment data that tend to elbow out other more formative uses of assessment data. Because summative uses of assessment data are so prevalent, it may be useful to examine a practical example of formative classroom assessment practice. Teachers and administrators read and share research studies extolling the benefits of formative assessment, but a detailed example could show how data can be used formatively in a classroom and peacefully co-exist with existing summative assessment scripts.

This paper examines one example of formative assessment data to show one way to "make room" for formative uses of assessment data in teacher thinking and practice. This examination takes place in three parts: The first section of the paper reviews the current definition of formative assessment. The second section of the paper introduces a formative assessment technique (single diagnostic items). The third section of the paper describes a case study in which a single diagnostic item is used in a college introductory psychology course. In the fourth and last section of the paper, I discuss the implications of this example of formative assessment technique along with further formative uses of the assessment data.

Formative Assessment Defined

Formative assessment is defined by the purpose and use of assessment data. Assessment data is used formatively when it is used during the learning process to help inform teacher and/or student decisions about teaching or learning. Formative assessment focuses on providing feedback whereas summative assessment focuses on evaluation and grading. Popham (2008) summarizes the definition crafted by the Chief State School Officers (CCSSO):

"Formative Assessment is a planned process in which teachers or students use assessment-based evidence to adjust what they're currently doing" (p. 6). Teachers and/or students using data from assessments to change the process of learning when needed are acts of formative assessment (e.g., a teacher might use feedback from an assessment as a suggestion to continue a conversation in a different direction, a student might use feedback from an assessment as a suggestion to reflect further about a specific issue or debate). Stiggins and Chappuis (2006) describe the distinction between formative and summative assessments by dividing uses of assessment data into two categories: assessment FOR learning, and assessment OF learning (pg. 11). They describe teachers using assessment data as feedback for students as assessment FOR learning (rather than assessment OF learning, using data to evaluate the quality of learning at the end). Assessment FOR learning impacts learning as it is happening, and they caution against repeated summative uses of assessment data, which "sum up" learning and tend to end conversations. Assessment for learning, formative assessment, implies a continuing conversation: assessment only becomes formative when it is used by teachers/and or students to reflect on the learning process. Assessment of learning, summative assessment implies an "ending" to the learning process: assessment becomes summative when student learning is summarized, most often in the form of an overall grade.

This emphasis on data use as the defining characteristic of formative assessment may be one of the obstacles during formative assessment discussions: many teachers associate the term "assessment" exclusively with summative uses of data (grading, evaluation, etc.). Simply sharing the definition and supporting research behind formative assessment may not help teachers think/talk about formative assessment in useful ways. An example of formative assessment that teachers see as realistic and useful may help broaden assessment conversations.

Single Diagnostic Items

Wylie and Ciafolo (2006) describe a formative assessment technique called "single diagnostic Items" that may be a perfect example to use during formative assessment discussions. Single diagnostic items focus on one important concept and "diagnose" student misconceptions about that concept. Wylie and Ciafolo define these items as "single, multiple choice questions connected to a specific content standard or objective. They have one or more answer choices that are incorrect but related to common student misconceptions regarding that standard or objective"

(p. 4). The incorrect responses indicate a specific misconception about the concept, so that student responses identify specific misconceptions. Wylie and Ciafolo provide the following example of a Single Diagnostic Item (p. 4):

"Question: Write two thousand sixty seven as a number

A. 267
B. 2067
C. 200067
D. 2000607"

If a student answers this item incorrectly, this information can be used by the teacher or student to quickly correct the misconception. A student who answers "C" tries to solve the problem by first writing the entire number 2000, then adding the second number, 67. Similarly, a student who answers "D" also tries to first write the entire number 2000, then writes the entire number 60 and then adds the last number, 7. A student who answers "A" doesn't understand how to use zeroes as placeholders. A student who answers correctly (answer B) most likely understands the process of writing a verbally described number numerically.

Single diagnostic items can diagnose student misconceptions when given to an entire class at once (via overhead/LCD projector, white board, etc.). Students hold up a card to indicate their answers, use a "clicker" response system, or respond publicly in some other way. These responses provide immediate data about understandings and misconceptions. The technique becomes formative when teachers or students use the data to further learning. Wylie and Ciafolo (2006) briefly discuss how a teacher might use these data as a baseline at the beginning of a lesson to determine what to focus on during instruction, or to check on student understanding at the mid point of a lesson to determine what to re-emphasize. Other formative uses of the data are also possible: teachers could use the data to sort students into discussion groups, each group tasked with analyzing their responses and re-thinking the solutions. These meta-cognitive reflections could help students correct their own misconceptions as well as deepen their understanding of why the correct answer is "right." Students can also use these data in formative ways: Teachers could provide a "key" for students that explain which misconception corresponds with each incorrect answer. Students could then self-assess their own understanding and/or misconception and reflect on what further practice they need in order to better learn the concept. This self-assessment and reflection could help prepare students to be more independent in their learning in the future and communicates the message that assessment data can be used by students, rather than

exclusively by teachers (and exclusively for grading purposes!)

This emphasis on formative uses of data from the diagnostic items allows the traditional form and guidelines for multiple choice items to be "loosened in several interesting ways." (Ciafolo & Wylie, 2006, p. 5). Traditional rules for multiple choice items include ensuring that the stem asks a single discrete question, the answer choices are parallel in structure and similar in length, and that there is one and only one correct answer (Thorndike & Hagen, 1977). However, these guidelines assume a summative context for data use. Data from multiple choice items are typically used summatively to evaluate and grade students, so teachers typically need to ensure that there are multiple items assessing the same body of knowledge and that these multiple items can be read fairly quickly. In a summative context, multiple items have to be used in order to obtain an accurate "average score", and the items have to be relatively short and quickly readable. Each item must have only one correct answer because the items will need to be scored and the data used in overall averages. It is difficult to design traditional, summative multiple choice items for nuanced or very complex concepts because the "right" answer must be summarized by only one of the choices.

But when the context is changed from summative to formative uses of data, some of the traditional rules for writing the items no longer apply. Consider another example from Ciafolo and Wylie (2006):

"Which of the following is an animal?
A. Cow
B. Tree
C. Human
D. Shark
E. Mushroom
F. Worm
G. Snail
H. Bacteria

This item violates several traditional multiple choice writing "rules." Eight possible answers would normally be considered far too many, because students would be required to retain the stem of the question while reading through the long list of answers. Also, there are several possible correct answers to this item. In fact, the correct answers outnumber the incorrect, and at least one answer (bacteria) may even require discussion or clarification before it is determined to be correct or incorrect. For these reasons, data from this item should not be used for summative purposes because of these limitations.

These "violations" limit the ability of the item to be used in a summative way, but enhance its ability to generate useful formative assessment data. Consider the information a teacher could glean from this item: If a student chooses "A. Cow" as the only correct answer, what can we diagnose about that student's thinking about the category of "animal?" The student's mental concept of animal may only include mammals and exclude humans from the category. Each option, correct and incorrect, can reveal important details about the ways in which students think about taxonomy or categories. Teachers could use this item and student responses to start discussions between students with different conceptions about what is included in the category of "animal." Students who include different answers in the animal category can lead each other toward greater inclusiveness, gradually moving toward a mutual, technically correct understanding. The aspects of the item that limit its summative utility enhance its effectiveness to provide formative feedback about student thinking.

Case Study

Educational psychology presents intriguing ideas that, according to perceptions of teachers, never quite work in actual classrooms (Rust, 2009). As enamored as I was with single diagnostic items, I was also determined to try them in an actual classroom. I asked an instructor of an introductory psychology class at a local small liberal arts college for permission to work with one of her classes. After obtaining permission from the college's Institutional Review Board, I spoke with the instructor about which key concept might be useful to design an item around. We eventually choose the topic of working memory. The text for the course did not cover this topic thoroughly and the instructor had not yet discussed this topic with the class.

After introducing myself and explaining the goals of the research project, I asked the class to respond in writing to the prompt: "In a few sentences, please briefly describe working memory." Then I conducted a working memory demonstration: Students closed their eyes and mentally counted the number of windows in their house. After they finished, they closed their eyes again to "count the number of words in the sentence I just said." After they finished this task, students indicated whether they had to use their fingers to count when I asked them about the number of windows in their house (none of the students raised their hands). Then I asked how many used their fingers to count the number of words in the sentence (almost all the students raised their hands). Then I projected a single diagnostic item on the screen:

Why do most people use their fingers when they count the words in the sentence, but not when they count the windows?

A. Windows are visual, and visual things are easy to process.

B. Most people are visual learners.

C. The windows are in long term memory, but the words are in short term memory.

D. Familiarity - I'm more familiar with my windows than I am the words in that sentence, so that task is harder.

E. I can picture the windows but I can't picture the words, and that has something to do with it.

F. Working memory must process words and pictures differently.

Students then indicated their response to this item (using their cell phones and the website Poll Everywhere: http://www.polleverywhere.com/). We briefly discussed the diversity of their responses:
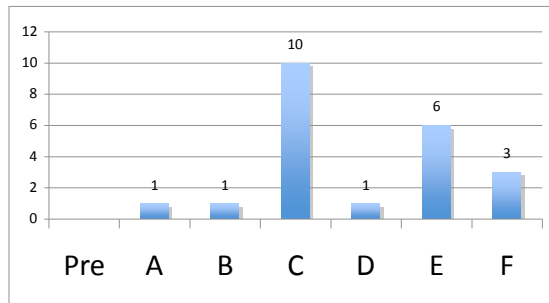

Students pointed out that at least one student in the class chose each of the possible responses. We discussed the frequency of the different responses : most students chose answer C ("The windows are in long term memory, but the words are in short term memory") or answer E ("I can picture the windows but I can't picture the words, and that has something to do with it"). We briefly discussed this diversity of responses and concluded that the data indicate that the class doesn't yet have a common explanation for why the word counting task required almost everyone to count on their fingers and the windows counting task did not.

Then I explained the origin of the task : Baddeley and Hitch (1974) used this and several similar tasks to demonstrate that working memory (then called short-term memory) was not simple, temporary storage. This kind of memory task demonstrates that not all information is treated equally in working memory. Baddeley and Hitch established that working memory is actually an active system that deals with different kinds of information in various ways. To complete the "counting the windows" task, first working memory has to categorize the incoming information and figure out

what needs to be done with it. Baddeley and Hitch call this aspect of working memory the "central executive." The central executive determines that the windows need to be pictured and then counted. Baddeley calls the aspect of working memory that handles images (e.g. picturing the windows) the "visuo-spatial sketchpad" and the aspect that handles words and numbers the "phonological loop." In the counting windows task, the central executive can "tell" the visuo-spatial sketchpad to "look" at the windows and the phonological loop to count them. But when faced with the "count the number of words in the sentence I just said" task, the central executive encounters a problem. The phonological loop has to repeat the words in the sentence, but the visuo-spatial sketchpad can't count, so most people have to use their fingers to complete the task.

After explaining the working memory research and terminology to the class, the students again wrote answers to the writing prompt "In a few sentences, please briefly describe working memory. " They again used their cell phones to vote on the correct answer to the diagnostic item:
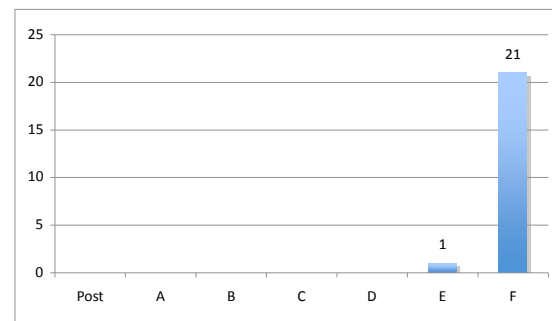

The class discussed these data and agreed that the memory demonstration and explanation changed their conceptions and understandings about the nature of working memory. Almost everyone in the class agreed in the end that answer F "working memory must process words and pictures differently" was the most correct answer. We discussed the two previous most common answers (C and E) and the class was able to describe in what ways those responses were correct and incorrect. I re-explained a bit about the purpose of this study with the class, answered a few questions, and the class ended.

Later I analyzed the students' written responses to look for other evidence of changes in understanding of the working memory concept. I created a short rubric to use to score students' pre and post writing responses:

1	2	3	4

Response **does not refer or attempt to define** any component of working memory: Central Executive, Phonological Loop, Visuo-spatial sketchpad	Response **refers to/attempts to describe ONE OR TWO** of the three components of working memory: Central Executive, Phonological Loop, Visuo-spatial sketchpad	Response **refers to/attempts to describe ALL** three components of working memory: Central Executive, Phonological Loop, Visuo-spatial sketchpad	Response **lists and correctly describes** all three components of working memory: Central Executive, Phonological Loop, Visuo-spatial sketchpad

Each student response was scored by me and a colleague who did not know which responses were "pre" and which were "post." These scoring data also indicate changes in understanding the working
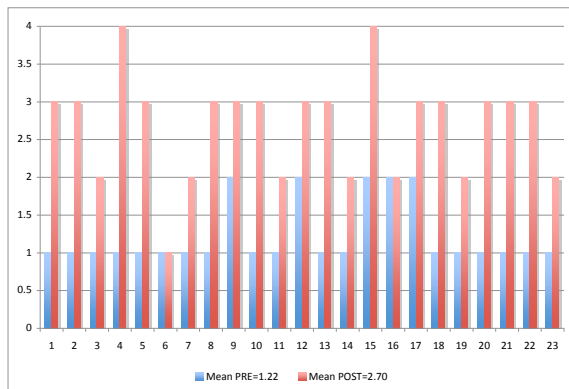
All the samples of student writing except for the response of participant 6 showed progress according to the rubric. The writing data support the data from the single diagnostic item and the conclusion that the memory demonstration and explanation helped students in this class better understand the concept of working memory.

Discussion

This paper examined one example to show one way to "make room" for formative assessment. The single diagnostic item about working memory used in the introductory psychology class worked effectively to establish that student understandings about the nature of working memory changed as a result of the demonstration and explanation. Single diagnostic items like this one could evaluate the impact of many different classroom demonstrations. For example, many psychology instructors use a classroom activity involving yearbook photos to demonstrate

operational definitions. Students look through yearbook photos to test the hypothesis "Women smile more than men." Student groups quickly discover that they need to agree on a common operational definition of a "smile" in order to gather comparable data. This demonstration is very popular with students and teachers, but does participation in the activity increase student understanding of operational definitions? The single diagnostic item below could be used to assess whether or not students understand how to operationally define a variable and diagnose student misconceptions about this important element of research methodology:

Misconceptions:

1. operational definition = the dependent variable
2. operational definition = the hypothesis
3. operational definition = the independent variable
4. operational definition = a control against confounding variables
5. operational definition = a participant sample
6. operational definition = the population
7. operational definition = a statistical analysis procedure

Given the hypothesis: "Watching television as a toddler leads to decreased ability to focus as an adult", which is the most likely operational definition?

A) ability to focus (*misconception 1*)

B) toddlers who watch television have less ability to focus (*misconception 2*)

C) watching television (*misconception 3*)

D) a control group of toddlers who don't watch television (*misconception 4*)

E) a sample of toddlers, age 9-24 months (*misconception 5*)

F) all children defined as toddlers (age 9-24 months) (*misconception 6*)

G) comparing the means of the two groups to see if the hypothesis is correct (*misconception 7*)

H) timing how long an adult can attend to a problem solving task (one right answer)

I) using an observational checklist measuring ability to focus (one right answer)

A single diagnostic item like this one could be used to assess the effectiveness of the classroom demonstration about operational definitions. These "effectiveness data" could be used to make decisions about which demonstrations are most effective and which need to be modified. These same data could have multiple formative purposes: Teachers can regroup students into discussion groups based on their responses and ask groups to process the rationale behind their answers. Heterogeneous discussion groups might be useful, each student discussing their different answer with the goal of the

group moving toward a consensus conclusion. Teachers could use the two most common answers and use other classroom demonstrations/activities to focus on those misconceptions directly. All these formative uses of the assessment data share a common characteristic: data from this one item are used to focus specifically on student misunderstandings about this important concept. This focus on the misconceptions these students demonstrate address student thinking actively and directly. The assessment data informs instruction by the teacher and metacognition by the students.

These data could also have been used in a summative way. Although student responses could be scored and assigned points for relative "correctness,." Summative uses of data in many ways preclude and prevent the important formative uses. Wylie and Ciafolo (2006) point out that the reliability and validity issues differ sharply between formative and summative data uses: "reliability becomes less of an issue because of the nature of the usage of the item. The teacher is not using the item to develop a score or grade from students' responses but rather to gain clearer insight into their thinking." (p. 5) The validity of a single diagnostic item depends on how useful the data are for students and teachers as they discuss these conceptions/misconceptions and act on the feedback.

The one most important question teachers need to ask about classroom assessment is: how will the data be used? Teachers and students most commonly assume that assessment data will be used to evaluate and grade student learning. Exclusively using assessment data in summative ways may have a negative impact on student self-efficacy and intrinsic motivation to learn (Stiggins, 2007). Newman (1992) explored the relationship between motivation and student engagement, concluding that an engaged student is an intrinsically motivated student, working out of a desire for competence rather than to avoid the punishments or rewards associated with grades. Formative uses of assessment data can encourage and nurture students' intrinsic motivations: feedback, without grade consequences, can provide important information to students about their current level of competence and what steps they can take next to meet their goals. Stiggins (2007) emphasizes that "we can't let students who have not yet met standards fall into losing streaks, succumb to hopelessness, and stop trying." Using assessment data as feedback, using these data formatively without grade consequences, can be a key technique in the effort to help students avoid the kind of hopelessness Stiggins describes and toward the intrinsically motivating feelings of competence.

When conversations about assessment begin with phrases like "How many points is it worth?" or "Will this be on the test?" there isn't room for formative assessment data use or thinking. The ubiquitous context of grades overpowers and overshadows other possible uses of assessment data. Single diagnostic items may be one avenue toward "making some space" for formative uses of data in the conversation about assessment. The discussions inherent in the construction of these items and the immediate, formative uses of these data may help encourage formative assessment thinking and practices, and in turn increase student intrinsic motivation and genuine engagement.

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Eric Amsel is Presidential Distinguished Professor and Chair of the Psychology Department at Weber State University. He has published four books, including: *The Development of Scientific Thinking Skills* with Deanna Kuhn and Michael O'Loughlin, *Change and Development: Issues of Theory, Method and Application* with Ann Renninger, *Language, Literacy, and Cognitive Development* with Jim Byrnes and *Adolescent Vulnerabilities and Opportunities: Developmental and Constructivist Perspectives* with Judi Smetana. He has also published over 20 scholarly articles in such journals as *Child Development, Cognition, Cognitive Development, Developmental Psychology, Journal of Research in Adolescence,* and *New Ideas in Psychology.* He is Associate Editor of *New Ideas in Psychology*, serves as a Board Member and past Vice President of the *Jean Piaget Society* and is presently Past President of the *Rocky Mountain Psychological Association*. He was awarded the Carnegie/Case Utah Professor of the Year in 2006.

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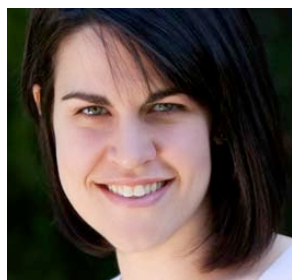
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Donelson R. Forsyth received his Ph.D in social psychology from the University of Florida. He teaches and studies leadership, group processes, the social psychology of morality, environmentalism, and social cognition. He was the founding editor of the journal *Group Dynamics: Theory, Research, and Practice* and he received, in 2002, the Virginia Council of Higher Education's Outstanding Faculty Award. He currently holds the Colonel Leo K. and Gaylee Thorsness Endowed Chair in Ethical Leadership in the Jepson School of Leadership Studies at the University of Richmond.

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Art Graesser

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Art Graesser is a professor in the Department of Psychology, an adjunct professor in Computer Science, and co-director of the Institute of Intelligent Systems at the University of Memphis. He is a Senior Research Fellow in the Department of Education at the University of Oxford. He received his Ph.D. in psychology from the University of California at San Diego. His primary research interests are in cognitive science, discourse processing, and the learning sciences. More specific interests include knowledge representation, question asking and answering, tutoring, text comprehension, inference generation, conversation, reading, education, memory, emotions, computational linguistics, artificial intelligence, and human-computer interaction. He served as editor of the journal *Discourse Processes* (1996–2005) and *Journal of Educational Psychology* (2009-2014) and as presidents of the Empirical Studies of Literature, Art, and Media (1989-1992), the Society for Text and Discourse (2007-2010), International Society for Artificial Intelligence in Education (2007-2009), and

the Federation for the Advancement of Brain and Behavioral Sciences Foundation (2012-13). Dr. Graesser and his colleagues have designed, developed, and tested software that integrates psychological sciences with learning, language, and discourse technologies, including AutoTutor, Operation ARIES!, & Coh-Metrix.

Cathy A. Grover
Emporia State University

Cathy A. Grover received her Ph.D. in psychology (emphasis in behavioral neuroscience) from Texas A&M University (TAMU), College Station, Texas, in 1992. Currently, she is an Associate Professor at Emporia State University (ESU). Cathy teaches research methods and statistics, foundations of psychology, drugs and behavior, brain and behavior, sensation and perception, and theories of motivation. She also supervises psychology graduate teaching assistants and enjoys mentoring students in research. She uses rodents to study the behavioral effects of drug abuse and conducted research on learning and memory and college teaching. During the 10 years that she has been the faculty sponsor or cosponsor of the ESU Psychology Club, the club has had 30-80 members. Following the practice of her undergraduate and master's mentor, Stephen F. Davis, each year Cathy travels with several club members to the annual meetings of the Southwestern Psychological Association, the Great Plains Students Psychology Conference, and the Association for Psychological and Educational Research in Kansas.

Corey L. Guenther
Creighton University

Corey L. Guenther is an Assistant Professor of Psychology at Creighton University, where he teaches courses in Introductory Psychology, Psychology of Personality, Motivation and Emotion, and Research Methods and Statistics. In addition to his teaching duties, Dr. Guenther oversees an active research lab involving undergraduate research assistants where his primary research explores the interplay between motivational and cognitive processes in self and social judgment. A secondary line of work in his lab examines how individuals' naïve theories about the social world impact their judgments, decisions, and predictions for performance in achievement domains. Dr. Guenther received his B.A. in Psychology from the University of St. Thomas in St. Paul, Minnesota, and received his Ph.D. in Social Psychology from Ohio University in Athens, Ohio.

Diane F. Halpern
Claremont McKenna College

Diane F. Halpern is the Trustee Professor of Psychology at Claremont McKenna College. She is a past-president of the American Psychological Association. Diane has published hundreds of articles and many books including, *Thought and Knowledge: An Introduction to Critical Thinking* (5th Ed. coming soon!)*; Sex Differences in Cognitive Abilities (4th ed.),* and *Women at the Top: Powerful Leaders Tell Us How to Combine Work and Family* (co-authored by Fanny Cheung). Her other recent books include *Psychological Science* (3rd ed. with Michael Gazzaniga and Todd Heatherton) and the edited book, *Undergraduate Education in Psychology: A Blueprint for the Future of the Discipline*. Diane recently published the Halpern Critical Thinking Assessment (HCTA; Schuhfried Publishers). The HCTA is the only test of critical thinking that uses multiple response formats, which allow test takers to demonstrate their ability to think about everyday topics using both constructed response and recognition formats.

Mitch Handelsman
University of Colorado Denver

Mitch Handelsman earned his Ph.D. in clinical psychology from the University of Kansas and is a professor and CU President's Teaching Scholar at the University of Colorado Denver. He has won teaching awards from the Council for Advancement and Support of Education and the Society for the Teaching of Psychology, a division of APA, of which he is a Fellow. His major research area is professional ethics; he has published widely in ethics and is the co-author (with Sharon K. Anderson) of a text on ethics in psychotherapy (*Ethics for*

Psychotherapists and Counselors: A Proactive Approach) from Wiley-Blackwell. His more than fifty articles—dealing with teaching, ethical issues, and mental health topics—have appeared in outlets ranging from *Psychology Today* to *Professional Psychology: Research and Practice* and the *Canadian Journal of Counselling.* He blogs for *PsychologyToday.com* and writes an ethics column for *Eye on Psi Chi.*

G. William Hill
Kennesaw State University

G. William (Bill) Hill is Professor Emeritus of Psychology at Kennesaw State University (KSU). At KSU he was a full-time teaching faculty member, Department Chair, Associate Vice-President for Academic Affairs, and Acting Vice-President for Academic Affairs, and Executive Director of the KSU Center for Excellence in Teaching & Learning. His professional interests have primarily revolved around teaching-related issues, such as ethics in teaching, grading practices and strategies, and incorporating cross-cultural issues into the psychology curriculum. He has given over 60 invited workshops and addresses on teaching. In 1989 he founded the annual Southeastern Conference on the Teaching of Psychology, which he coordinated for 23 years. He received the 1985 KSU Distinguished Teaching Award and is a Fellow of APA Divisions 1 (General Psychology), 2 (Society for the Teaching of Psychology) and 52 (International Psychology). Bill received the 2004 American Psychological Foundation Charles L. Brewer Distinguished Teaching Award.

Jeffrey D. Holmes
Ithaca College

Jeffrey D. Holmes is an associate professor in the psychology department at Ithaca College. He teaches courses in general psychology, introductory research methods, adjustment, and controversial psychological topics. He has twice been nominated for Ithaca College faculty excellence awards. His research interests include the scholarship of teaching, student attitudes about psychology, and racial attitudes. He has published articles and chapters on topics relevant to the teaching of psychology and social psychology, and he is the author of a forthcoming volume on social psychology intended for pre-college and beginning undergraduate students. He is also a coeditor of the E-xcellence in Teaching essays published by the Society for the Teaching of Psychology.

Jill Jansen
University of Wisconsin – Eau Claire
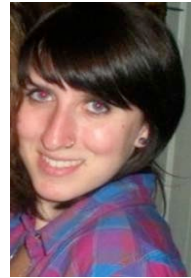
Jill Jansen is currently a senior at University of Wisconsin–Eau Claire, hoping to graduate after the Fall 2011 semester with a major in Psychology and a minor in Spanish. After graduation, I hope to get a job in social work. Coauthoring part of this chapter was a unique and very interesting experience for me–I am excited to be a published author! I do not know what my future holds, but I know that it will be something great. I would like to thank Dr. Peden for this opportunity, as well as my friends and family that have always supported everything I do.

Maya M. Khanna
Creighton University

Maya M. Khanna is an Assistant Professor of Psychology at Creighton University. She examines reading and memory processes in adults and children. One of her research goals is to design research-based reading instruction programs. Maya completed her undergraduate work in psychology and neuroscience at Washington University in St. Louis. After graduating, she served as a high school science teacher with Teach For America in San José, California. Maya's interactions with high school students lead to her present interest in reading and memory development. Thus, Maya sought graduate training in cognition and development at The University of Michigan. After receiving her Ph.D. in 2006, she joined the faculty of Creighton University where she teaches classes in developmental psychology, cognitive psychology, psychological research methods, and statistics. Maya greatly enjoys collaborating with undergraduate students on research projects. Currently, they are conducting studies on reading and memory development with several partner elementary schools.

Rachel Wilt Kirk
Southern Utah University

Rachel Wilt Kirk is an Assistant Professor of Spanish at Southern Utah University where she teaches Spanish language and composition, language acquisition, translation, and teaching methodologies. Dr. Kirk received her M.A. from Middlebury College and her Ph.D. in Applied Linguistics from the Universidad Antonio de Nebrija in Madrid. Her research interests include Second Language Acquisition, Hugo Chavez, Spanish culture, and language and identity.

Brenda Marsteller Kowalewski
Weber State University

Brenda Marsteller Kowalewski is Presidential Distinguished Professor of Sociology and Director of the Community Involvement Center at Weber State University. She completed her Ph.D. in sociology at the University of Maryland. Her main teaching and research areas include the Sociology of Family, Gender, and Work; program evaluation of youth development programs; and assessment of community-based learning pedagogy. She is currently conducting community-based research with her undergraduate students to study the long-term impact of participation in a local youth development program for "at-risk" youth. Kowalewski has authored numerous articles, book chapters and teaching toolkits for implementing community-based learning pedagogy in college courses. She serves as a member of the *Campus Compact Consulting Corps* and the *Utah Campus Compact Faculty Development Network* to assist institutions of higher education institutionalize community-based learning and train faculty in the pedagogy.

R. Eric Landrum
Boise State University

R. Eric Landrum is a professor of psychology at Boise State University, receiving his PhD in cognitive psychology (with an emphasis in quantitative methodology) from Southern Illinois University-Carbondale in 1989. His research interests center on the study of educational issues, identifying those conditions that best facilitate student success (broadly defined). He has over 250 professional presentations at conferences and published 17 books or book chapters, and has published over 60 professional articles in scholarly, peer-reviewed journals. His work has appeared in journals such as Teaching of Psychology, College Teaching, and the Journal of College Student Development. He has worked with over 260 undergraduate research assistants and taught over 12,000 students in 19 years at Boise State. During Summer 2008, he led a working group at the National Conference for Undergraduate Education in Psychology concerned with the desired results of an undergraduate psychology education.

Gary W. Lewandowski Jr.
Monmouth University

Gary W. Lewandowski Jr., received his Bachelor's degree from Millersville University of Pennsylvania, and his Master's and Ph.D. from the State University of New York at Stony Brook. He is currently at Monmouth University where he teaches courses such as: First Year Seminar, Introduction to Psychology, Experimental Methods, Intimate Relationships, and Senior Thesis. One line of scholarship focuses on pedagogy surrounding research methods courses. This interest has included the creation of www.TeachPsych Science.org a website dedicated to the dissemination of high-quality teaching resources for research methods and statistics courses.His other research focuses on romantic relationships, including interpersonal attraction, relationship maintenance, and break-ups. This work has appeared in a number of media outlets including: local newspapers, The Psychology of Survivor, Science Daily, United Press International, WebMD, Self Magazine, Cosmopolitan Magazine, Ladies Home Journal, Women's Health, Men's Health, CNN, and the New York Times.

B. Jean Mandernach
Grand Canyon University

B. Jean Mandernach is Professor of Psychology and Director of the Center for Innovation in Research and Teaching at Grand Canyon University. Her research focuses on enhancing student learning through assessment and innovative online instructional strategies. In addition, she has interests in examining the perception of online degrees, the quality of online course offerings and the development of effective faculty evaluation models. Jean received her B.S. in comprehensive psychology from the University of Nebraska at Kearney, an M.S. in experimental psychology from Western Illinois University and Ph.D. in social psychology from the University of Nebraska at Lincoln.

Heath Marrs
Central Washington University

Heath Marrs is an Assistant Professor of Psychology at Central Washington University. Dr. Marrs earned a B.A. from Tabor College, an M.S. and Ed.S. in school psychology from Fort Hays State University, and an Ed.D. in Educational Psychology from Kansas State University. He currently teaches undergraduate courses in developmental and child psychology and graduate courses in psychological and educational assessment, the psychology of reading, and counseling for children and adolescents. He also serves as a practicum and thesis supervisor for students in the graduate program in school psychology at CWU. His current research interests include professional issues in school psychology, assessment of culturally and linguistically diverse students, and learning and study strategies.

Alisha Massen
Kansas State University

Alisha Massen is a graduate student at Kansas State University working towards her Master's degree in sociology. She worked in Weber State University's Community Involvement Center as an AmeriCorps VISTA volunteer from April of 2009 until July of 2010. Her primary project was to help the *Readiness and Exposure Committee* and the *Community Involvement Center* put the training modules together by researching, editing, and helping write the modules. She also helped to expose the service-learning training modules throughout campus and the community by giving face-to-face training sessions on them to students, informing faculty about their uses, and informing community partners about their benefits. She is very excited that these modules have benefited the students doing service-learning and that they have had a positive impact on the community.

Rob McEntarffer
Lincoln Public Schools

Rob McEntarffer taught high school psychology at Lincoln Southeast High School for 13 years and has a Master's degree in Educational Measurement. He has been involved in the Advanced Placement Psychology program as a reader, table leader, and high school question leader. Rob co-authored Barron's *How to Prepare for the Advanced Placement Psychology Exam* with Allyson Weseley. He currently works as an assessment specialist for Lincoln Public Schools, and is pursuing a Ph.D. focused on formative uses of classroom assessment data. He lives in Lincoln, NE with his wife, two children, dog, and a lazy, grumpy cat.

Wilbert J. McKeachie
University of Michigan

Wilbert J. McKeachie is Professor Emeritus of Psychology and former Director of the Center for Research on Learning and Teaching at the University of Michigan, where he has spent his entire professional career since taking his doctorate in 1949. Bill is this country's foremost teacher of teachers. His book, *Teaching Tips* has become the standard reference work for new college teachers. He is a past-President of the American Psychological Association; the American Association of Higher Education; the Division of Educational, Instructional, and School Psychology of the International Association of Applied Psychology; and the Center for Social Gerontology; and Past Chair of the Committee on Teaching, Research, and Publication of the American Association of University Professors. Among his many awards and recognitions is the American Psychological Association's Distinguished Teaching in Psychology Award.

Elizabeth M. Meade
Cedar Crest College

Elizabeth M. Meade is Professor of Philosophy and Associate Provost at Cedar Crest College. She received her Ph.D. in Philosophy in 1993 from Boston College. Her publications include "The Commodification of Values," in Hannah Arendt: Twenty Years Later, edited by Lawrence May and Jerome Kohn (1996); "Ethics Education: Connecting Learning to Socially Responsible Living," Professional Ethics (2000); and "Choice's Challenge: Feminist Ethics and Reproductive Autonomy," in The Ethics of the Family, edited by Stephen Scales, Adam Potthast and Linda Oravecz (2010). She has presented papers at national and international conferences on topics such as moral judgment, reproductive technology and ethics, teaching ethics, and service-learning.

Kelley Haynes Mendez
Argosy University

Kelley Haynes Mendez, PsyD is a licensed psychologist and associate professor with Argosy University. She has taught in graduate and undergraduate programs with Argosy University for the past 8 years. Her areas of expertise include multicultural and diversity issues. Dr. Haynes Mendez has spent time in both Kenya and South Africa as a volunteer and lecturer. In 2008, she was awarded a guest lecturship at Cornerstone College in Cape Town, South Africa where she taught courses on gender issues and sexuality, and family development. Dr. Haynes Mendez resides in Dallas, Texas where she operates a small private practice. Her clinical work includes narrative therapy practice with multicultural and diverse populations. Dr. Haynes Mendez is a member of APA Divisions 45 and 52, and currently serves on the Diversity Task Force for APA Division 2, Teaching of Psychology.

Leslie C. Miller
Mesa State College

Leslie C. Miller. Armed with a Master's and Ph.D. from Claremont Graduate University, Dr. Leslie C. Miller returned home to Colorado's western slope to take up his current position as an Assistant Professor of Philosophy at Mesa State College. His doctoral focus on Heideggerian phenomenology and the analytic of Dasein led him to develop new motivational teaching strategies in response to the challenge of reaching students underexposed to academic and intellectual rigor. These successes in turn spurred him to attain certification as a Philosophical Practitioner and to create his now-thriving counseling practice in both real space and virtual communities. As both teacher and counselor, Dr. Miller excels at helping others to flourish and live consciously through mindfulness. He can be contacted at drmiller@themindful philosopher.com.

Richard L. Miller
University of Nebraska at Kearney

Rick Miller received his Ph.D. in 1975 from Northwestern University. He has taught at Georgetown University, the University of Cologne, and was, for 20 years, chair of the Psychology Department at the University of Nebraska at Kearney. He served for many years as the Director of applied behavioral science research projects for the Human Resources Research Organization (HumRRO) in Heidelberg, Germany after which he set up a community college program for English speaking residents of Mallorca, Spain. Under his leadership, the UNK Department of Psychology was recognized as the 1999 Outstanding Teaching Department in the University of Nebraska system. He has published articles and chapters on social influence, research ethics, the teaching of psychology, multicultural identity and environmental psychology. His books examine social comparison processes, undergraduate student research, and student engagement. In 2009 he received the Robert S. Daniel Teaching Excellence Award from the Society for the Teaching of Psychology and was named US Professor of the Year by CASE and the Carnegie Foundation for the Advancement of Teaching.

Keith Millis
Northern Illinois University

Dr. Keith Millis is a full professor in the Department of Psychology at Northern Illinois University. Dr. Millis is the Project Director of *Operation ARIES!* which was funded by the U.S. Department of Education. He is a cognitive psychologist with expertise in language processing, and has developed a computerized assessment of language comprehension. He has published several articles and book chapters on these topics.

Grace Ann Mims
University of Nebraska at Kearney

Grace Ann Mims is a professor and Department Chair for the Counseling and School Psychology Department at the University of Nebraska at Kearney (UNK). In her 18 years as a Counselor Educator she has specialized in couples and family, group and multicultural counseling as well as legal and ethical issues in counseling and clinical supervision. Dr. Mims' educational background includes a bachelor's degree in Psychology from Central Missouri University, a master's degree in Student Affairs and Community Counseling from Western Illinois University and a doctoral degree in Counselor Education and Supervision from Southern Illinois University at Carbondale. She is a Licensed Independent Mental Health Professional (LIMHP) and Independent Professional Counselor (LIPC) in Nebraska. She also holds Professional Counselor and Marriage and Family Therapist (LMFT) licenses in South Dakota. On the national level, she is a Nationally Certified Counselor (NCC) and Approved Clinical Supervisor (ACS).

Matthew Mims
University of Nebraska at Kearney

Matthew Mims is an assistant professor at the University of Nebraska at Kearney in the Department of Counseling and School Psychology. He teaches classes in the areas of counseling, student affairs, and international education. An area of focus has been examining multicultural issues such as ethnic identity, gender, sexual orientation, or global curriculum development. After gaining an undergraduate degree in Education and History at Alma College, a master's was gained from the Western Illinois University in College Student Personnel, and a doctorate from the University of South Dakota with a specialty in Counselor Education. He is a Licensed Mental Health Professional (LMHP).

John Murray
Indiana State University

John Murray is a cognitive psychologist who earned his Ph.D. at the University of California, Santa Barbara and did postdoctoral research at the University of Massachusetts, Amherst. He has taught undergraduate courses in Introductory Psychology, Research Methods, Cognitive Psychology, and Advanced (Senior) Research at the University of Florida, the Georgia Institute of

Technology, and Georgia Southern University. His primary research interests are text processing, discourse processing, and educational leadership. His interest in peer learning originated from his work with students in all his courses where students are required to write research papers. Currently, he serves as professor of psychology and Dean of the College of Arts and Sciences at Indiana State University.

Katrina H. Norvell
Portland State University

Katrina H. Norvell, Ph.D., is a senior instructor of public administration and nonprofit leadership and management for the Mark O. Hatfield School of Government at Portland State University, Portland Oregon. Her current teaching focus includes courses in the Hatfield School's Minor in Civic Leadership and master's level courses in philanthropy and nonprofit marketing. Her research interest includes community and civic engagement, engaged and public-purpose scholarship, education for democracy, and participatory evaluation in community-based programs. Dr. Norvell received the 2010 Dissertation Award from the International Association for Research on Service-Learning and Community Engagement and the Doctoral Award of Excellence from PSU's College of Urban and Public Affairs. She has worked with National Campus Compact on the Carnegie Foundation-funded program to develop and document indicators of civic engagement on college campuses and as a program evaluator on numerous community-based programs, including the Packard Foundation-funded leadership development initiative for people of color.

Jennifer L. O'Loughlin-Brooks
Collin College

Jennifer L. O'Loughlin-Brooks is a Psychology Professor at Collin College and also serves as advisor to the Collin Chapter of Psi Beta National Honor Society. She received her MS in Experimental Psychology from Emporia State University and graduated from Texas Christian University with a B.A. in Psychology and Speech/Communications. She is committed to cultivating scholarship through undergraduate research and has enjoyed accompanying her students to national and regional conferences since 1999. Research topics have explored civic engagement, lucid dreaming, sexuality, sports satisfaction, service-learning and criminal behavior. Her passion for undergraduate research led to the co-founding of the National Psychology Synergy Conference in 2006. CASE and the Carnegie Foundation for the Advancement of Teaching named Jennifer O'Loughlin-Brooks the 2006 Texas Professor of the Year. She is a five-time recipient of the Faculty Recognition Scholarship for Exemplary teaching and service and is currently an Associate Editor for the Journal of Psychological Inquiry.

Blain F. Peden
University of Wisconsin-Eau Claire

Blaine F. Peden is a professor in the Department of Psychology at the University of Wisconsin-Eau Claire. He completed a baccalaureate degree at Fresno State College and a doctoral degree at Indiana University. He has taught research methods since 1975 and currently teaches other courses such as Sensation and Perception and Ethics in Psychology. He performs collaborative research with undergraduates presented at professional conferences. Early interests and publications included topics in animal learning and behavior such as autoshaping, learned performance in open and closed economies, and foraging. More recent interests and publications include teaching and learning about research methods, critical thinking, group matching, virtual research ethics, online courses, scientific writing, teaching with technology, and the scholarship of teaching and learning.

David V. Perkins
Ball State University

David V. Perkins is Professor of Psychological Science at Ball State University. He received his Ph.D. in clinical psychology from Indiana University-Bloomington, and his B.A. with honors in psychology from Oberlin College. For 33 years he has taught a range of classes from introductory psychology to advanced graduate seminars. Perkins coauthored 3 editions of *Principles of Community Psychology*

(Oxford University Press), as well as *Case Analyses for Abnormal Psychology* (Psychology Press) and *The Ethics of Teaching: A Casebook* (Erlbaum). His journal publications concern community-based services for persons with serious mental illness and other topics in clinical and community psychology, and methods and techniques in the teaching of psychology.

Jim Persinger
Emporia State University

Dr. Jim Persinger, Associate Professor, has worked in the public schools as a school psychologist, preschool coordinator, autism teacher, and chair of infant toddler services. After completing his Ph.D. at the University of Kansas, he joined the faculty at Emporia State University in 2000, where he directs the School Psychology Program. He has served for more than a decade on the board of the Kansas Association of School Psychologists, including as President in 2008. He has served as a development consultant for Special Olympics, and assisted with standardization of the Stanford-Binet V Intelligence Scales, Vineland Adaptive Behavior Scales (3rd), Bender-Gestalt (revised), Social Skills Improvement System Rating Scales, Developmental Indicators for the Assessment of Learning (4th), and Oral and Written Language Scales (2nd). Dr. Persinger regularly presents to public school faculty, as well as state and national conferences, on topics as diverse as inclusive education, role-playing therapies, prosocial competence programs and sociometric approaches to assessment.

Loreto Prieto
Iowa State University

Loreto Prieto is a Full Professor of Psychology and the Director of the US Latino/a Studies program at Iowa State University. He has over 130 publications and presentations to his credit, most at the interface of cultural psychology and pedagogy in psychology. He is a Fellow of the American Psychological Association, through Division 2 (teaching) and 17 (Counseling Psychology). He co-edited (with Regan Gurung) the 2009 book *Getting Culture: Incorporating Culture into the Curriculum* (Stylus Publishing). Dr. Prieto is

a sought after consultant; he specializes in assisting academic departments in diversifying their curricula, student and faculty communities, and training environments.

Courtney A. Rocheleau
Appalachian State University

Courtney A. Rocheleau is an Assistant Professor of Psychology at Appalachian State University in Boone, North Carolina. Courtney earned her BS in Biology at Colorado State University before completing her MA and PhD in Social Health Psychology at the University of Colorado. Courtney has been heavily involved in regional and national initiatives to improve and promote undergraduate education in the discipline. Courtney teaches undergraduate courses in general psychology, social psychology, health psychology, and history & systems of psychology, and a graduate seminar in health psychology. Her research interests include organ donation behavior, breast and testicular self-examination behavior, and the norm to self-derogate one's body in group conversations known as "fat talk".

Lisa Rouleau
Wesleyan College

Lisa Rouleau received an M.S. in counseling and psychology from Troy University in Troy, Alabama and completed a postgraduate degree in School Psychology at the University of Central Oklahoma. As the Director of the First Year Experience at Wesleyan College, she is responsible for overseeing the academic progress of every incoming first year student. Ms. Rouleau also plans and implements a summer bridge program for at risk students. As an Instructor of Psychology, Ms. Rouleau teaches Introductory Psychology, The Psychology of Testing, and Introduction to Human Services. Her research focuses on the unique issues faced by first year college students with an emphasis on predictors of success and factors that improve the persistence of those students identified as being high risk. Ms. Rouleau is currently pursuing a Ph.D. in higher educational leadership at Mercer University in Macon, GA.

Bryan K. Saville
James Madison University

Bryan K. Saville is an associate professor in the Department of Psychology at James Madison University. He earned his Ph.D. in experimental psychology from Auburn University, where he had the good fortune of working with Bill Buskist. It was also during his time at Auburn that Bryan became interested in the teaching of psychology. In the last few years, he has focused his research efforts on studying interteaching, a new teaching method that has its roots in behavior analysis. In addition, Bryan has been heavily involved in the Society for the Teaching of Psychology (Division 2 of APA), serving at various times as vice president for awards and recognitions and as chair of the teaching awards committee. Bryan is an associate editor for the journal *Teaching of Psychology* and the author of *A Guide to Teaching Research Methods in Psychology,* published in 2008 by Wiley-Blackwell.

Brian W. Schrader
Emporia State University

Brian W. Schrader is Chair of the Psychology, Art Therapy, Rehabilitation, and Mental Health Counseling (PARM) Department at Emporia State University. Over the past 15 years at ESU he has served as the Industrial/Organizational Psychology graduate Program Director, GTA Supervisor, President of PERK, and Research Director for the Jones Institute for Educational Excellence. His research publications span a diverse set of mediums including a psychology film, psychology web sites, research journals, book supplements, and this E-book chapter. He has been awarded the Teacher's College Excellence Award in both Service and Teaching in Professional Service as well as Outstanding ESU Faculty Advisor of the Year. Dr. Schrader is a member of APA, the Society for Industrial and Organizational Psychologists (SIOP), Psychological and Educational Researchers in Kansas (PERK), and a charter member of the Great Plains Behavioral Research Association. Dr. Schrader received his Ph.D. and M.A. from Louisiana State University and a B.A. in both Psychology and Chemistry from Bethany College. Dr. Schrader regularly consults

within the state and community, presents at conferences, and helped develop and teach the first Introduction to the Psychology Major course at ESU.

M. Corinne Smith
Appalachian State University

Corinne Smith serves as the Residence Life & Learning Communities Coordinator within University Housing at Appalachian State University. Corinne grew up in St. Peters, Missouri and attended Missouri State University where she graduated with her Bachelor of Science degree in Physical Education. Corinne received her Master of Science degree in College Student Personnel from Arkansas Tech University in May 2009 just before moving to Boone, NC where she currently lives with her husband, Jonathan.

Randolph A. Smith
Lamar University

Randolph A. Smith is currently Professor and Chair of the Department of Psychology at Lamar University. He is a Fellow of the American Psychological Association (Divisions 1 and 2) and the Association for Psychological Science and has filled a variety of positions within the Society for the Teaching of Psychology. He is coauthor (with Steve Davis) of a research methods textbook (*The Psychologist as Detective: An Introduction to Conducting Research in Psychology*) and a combined statistics/research methods text (*An Introduction to Statistics and Research Methods: Becoming a Psychological Detective*). In addition, he has authored a critical thinking book (*Challenging Your Preconceptions: Thinking Critically About Psychology*) and has edited the Instructor's Manual for Wayne Weiten's introductory psychology text. Randy has more than 50 publications, including books, journal articles, and book chapters. In addition, he has given over 100 presentations and has supervised almost 150 undergraduate conference presentations. Randy's interests and research revolve around the scholarship of teaching of psychology. He earned his bachelor's degree from the University of Houston and his doctorate from Texas Tech University.

Valerie T. Smith
Endicott College

Valerie T. Smith currently serves as Chair of Social Sciences and Associate Professor of Psychology at Endicott College in Beverly, Massachusetts. Favoring an interdisciplinary approach to psychology when teaching, she emphasizes the effect of sociohistorical context on development, thinking and behavior. This perspective has also manifested as experience with learning communities programs, service-learning courses and advocacy and civic engagement initiatives. She has additionally served as an advisor on numerous student research projects on topics ranging from lucid dreaming and intelligence to stigmatization of mental illness to human anatomy knowledge and abstinence education. Her area of interest centers on the interaction between plagiarism, writing proficiency and cognitive load.

Donna Stuber
Friends University

Donna Stuber is Professor of Psychology at Friends University in Wichita, KS. In addition to teaching, she has supervised the research of seniors preparing presentations or manuscripts since coming to Friends in 1996. She is also the proud co-advisor of the Friends University Chapter of Psi Chi, the recipient of multiple regional and national honors, including the 2008 Ruth Hubbard Cousins National Chapter Award. Dr. Stuber received her B.S. from Missouri Western State University, M.S. from Emporia State University, and Ph.D. from Kansas State University. Dr. Stuber's research interests include academic dishonesty in the virtual classroom, student perceptions of the college experience, university response to emotionally disturbed students, and most recently disaster voyeurism. Since 1992 she has published over 20 articles and made over 20 presentations, many coauthored by undergraduates. Dr. Stuber's memberships include Association for Psychological Science (APS) and the Association for Psychological and Educational Research in Kansas (PERK). She is twice a Past-President of PERK, has twice served on the Board of Directors for the Great Plains Behavioral Research Association, and is a National Past President of Psi Beta. She was included in *Who's Who Among America's Teachers* in 1996, 1998, 2004, 2005, and 2007 and in 1998 was presented the Outstanding Recent Graduate Award from the Teacher's College at Emporia State University.

Michael J. Tagler
Ball State University

Michael J. Tagler is an Assistant Professor of Psychological Science at Ball State University (Muncie, IN) where he teaches courses in social psychology, industrial psychology, health psychology, and statistics. He received his Ph.D. and M.S. in social-personality psychology from Kansas State University (Manhattan, KS), and his B.A. in honors psychology from Eastern Illinois University (Charleston, IL). He previously held the academic positions of Assistant Professor of Psychology at Nebraska Wesleyan University (Lincoln, NE) and DePauw University (Greencastle, IN). His current research examines gender differences/similarites in infidelity distress, selective exposure to information, and college student sleep habits. He has published articles in *Journal of Experimental Social Psychology*, *Social Psychological and Personality Science, Sex Roles,* and *Journal of Social Issues*. He also has authored a spreadsheet-based textbook designed for introductory statistics classes, and received a 2009 Society for the Teaching of Psychology Instructional Resource Award for the development of spreadsheet statistics assignments.

Sarah Taylor
Washburn University

Sarah Taylor is the Instructional Designer at Washburn University. She is interested in the use of Web 2.0 in higher education and enhancing online course quality. She received her B.S. in Management/Computer Information Systems from Park University and M.S.Ed. from the University of Nebraska at Kearney.

Kristina Thielen
Boston University

Kristina Thielen earned her BS Psychology at Friends University in 2008, and is now pursuing a Master of Criminal Justice at Boston University. Kristina's research during her time at Friends included a wide range of subjects such as same sex marriage, stress responses in emergency responders, the effect of alcohol consumption on social capital, and the internet's effect on human sexuality. Kristina has presented her research at five student conferences, winning first place for either presentation or manuscript in four venues. Kristina is a current member of Psi Chi, and served as vice president of the Friends Chapter of Psi Chi in 2008 when they received the Ruth Hubbard Cousins Award for Chapter of the Year.

Amy K. Thoftne
University of Wisconsin-Eau Claire

Amy K. Thoftne is an undergraduate student at the University of Wisconsin-Eau Claire, where she majors in Psychology with double-minors in Family Studies and Global studies. Amy has participated in various student-faculty collaborative research projects during her time at UW-Eau Claire, including researching the efficacy of PowerPoint presentations as a lecture aid, review of concept words in preschool intelligence tests, and analysis of the Insert Comment technique in online courses. Amy plans to attend graduate school in the future.

Michael Vigorito
Seton Hall University

Michael Vigorito is Professor of Psychology at Seton Hall University in South Orange, New Jersey where he teaches senior seminar, research methods, and traditional and hybrid versions of introductory psychology at the undergraduate level, and behavioral neuroscience courses at both the graduate and undergraduate level. He received his doctorate in experimental psychology from the University of Massachusetts, Amherst in 1988. His most recent research examines the effects of neuroimmune interactions and drugs of abuse on learning and motivated behavior in rodent models of neuroimmune disorders such as the HIV-1 transgenic rat. He is also interested in computers and technology and their application to instruction and curricular design. He co-teaches an interdisciplinary undergraduate course titled "Robotics and the Mind " which introduces students to computer programming, robotics, and behavioral neuroscience so as to facilitate a discussion of what it means to be human.

Sara Villanueva
St. Edwards University

Sara Villanueva received her Bachelors of Arts degree in Psychology at the University of Texas at Austin. After working in the field for several years with at-risk adolescents, she returned to academics and received both her Masters of Science and her Ph.D. at the University of Florida in the area of Developmental Pscyhology. Her research interests include Adolescent development, Parent-adolescent conflict, Parenting styles across cultures, and Family dynamics. Dr. V, as she is known to her students, is currently an Associate Professor of Psychology at St. Edward's University. She teaches courses such as Adolescent Psychology, Child Development, Cross-Cultural Lifespan Development, and Developmental Psychopathology. She has received several teaching and research awards throughout her academic career.

Theresa Wadkins
University of Nebraska at Kearney

Theresa Wadkins began as an instructor in the Department of Psychology at KSC/UNK in 1990. She received her Master's Degree in clinical psychology at Fort Hays State University after earning her Bachelor's Degree at Kearney State College. After a few years as an instructor, while teaching full-time, she completed her doctorate degree at UNL in Educational Psychology. She has also recently completed the coursework for a Master's in Forensic Science through Nebraska Wesleyan University. Dr. Wadkins' research

interests include procrastination, assessment and teaching issues. She has published 13 articles in the past 10 years and presented 40 professional papers. Dr. Wadkins has served as the President of the Nebraska Psychological Society and has been a member of the Rocky Mountain Psychological Association, the Great Plains Behavioral Research Association, Psi Chi, Sigma Xi and Phi Kappa Phi and has been a reviewer for the *Journal of Psychological Inquiry*. In 2008, she received the University of Nebraska system award for "Outstanding Teaching and Instructional Creativity".

Kenneth A. Weaver
Emporia State University

Kenneth A. Weaver is Professor and Associate Dean of The Teachers College at Emporia State University, where he has taught for 25 years. Prior to receiving his PhD in Educational Psychology from Columbia University, he was a Peace Corps Volunteer in rural public health for two years in the Philippines and a 7th and 8th grade science teacher for five years in South Carolina. Weaver is a Fellow of the American Psychological Association (APA) and served as the 50th President of the Southwestern Psychological Association. He founded the Kansas High School Psychology Teachers Workshop; the 16th annual workshop was held in October, 2010. He received an APA Presidential Citation for outstanding leadership in support of teaching and learning in 2000, the Robert S. Daniel Teaching Excellence Award from APA's Society for the Teaching of Psychology in 2002, and the 2006 Psi Chi Florence L. Denmark National Faculty Advisor Award. He currently chairs the APA Board of Education Affairs Working Group on the Training and Certification of High School Psychology Teachers.

Suzanne L. Weaver
Cedar Crest College

Suzanne L. Weaver is a Professor of Social Work at Cedar Crest College. She is the Coordinator of the Certificate Program in Gerontology. She has published in ethics education and gerontology, consults in gerontology and serves on several ethics committees in long-term care and acute care settings. Professor Weaver was a visiting scholar at Hong Kong Baptist University, where she did a cross cultural analysis of biomedical ethics. She has participated in research and humanitarian aid trips to China, Israel, Nepal, South Africa and Liberia.

Jeannetta Williams
St. Edwards University

Jeannetta Williams received her undergraduate degree in psychology from the University of Rochester in Rochester, New York. From her work in a social psychology lab, she developed interests in academic achievement and social identity. She pursued these interests during graduate school at the University of Texas at Austin. At UT, she gained research experience in the areas of stereotype threat and the academic performance of minority students as part of Dr. Joshua Aronson's research team. In addition, she gained teaching experience by participating in the university's Preparing Future Faculty Program. Upon graduation with a Ph.D. in Educational Psychology, she joined the psychology faculty at St. Edward's University in Austin. St. Edward's University has provided her with opportunities to teach a variety of courses in psychology, including research methods, theories of personality, and developmental psychology, and to collaborate with students on research projects.

Jan Winniford
Weber State University

Jan Winniford serves as Vice President for Student Affairs at Weber State University. One important role of the Division of Student Affairs is to coordinate outreach programs geared towards increasing educational opportunities and college participation for under-represented students. Prior to her role at Weber State, Dr. Winniford held a number of professional positions at Texas A&M University over a 26 year period, most recently as the Associate Vice President for Student Affairs. In addition she had an adjunct associate professor appointment in Educational Administration and Human Resource Development where she taught in the Student Affairs

Administration in Higher Education Master's program. Dr. Winniford completed a Ph.D. in Higher Education Administration at Texas A&M University in 1991, a Master's degree in Student Affairs Administration and Counseling Psychology from The Ohio State University in 1979, and a Bachelor's degree in Psychology from The University of Texas at Austin in 1976.

William Wozniak
Miami University of Ohio

William Wozniak, received his Bachelor's degree from University of Notre Dame, and his Master's and Ph.D. from the Miami University of Ohio. He is currently Professor of Psychology at University of Nebraska at Kearney. He teaches a wide variety of courses including General Psychology, Experimental Psychology, Environmental Psychology, Memory & Cognition, Sensation & Perception, Science & Skepticism, and Death & Dying. If he were pressured to describe a research specialization, it would be the study of belief in the paranormal and the effectiveness of teaching techniques that encourage critical thinking, such as the use of counter-attitudinal advocacy. He has collaborated with Dr Rick Miller and many students over the years. His other research projects have been heavily influenced by his students' interests.

George Yancey
Emporia State University
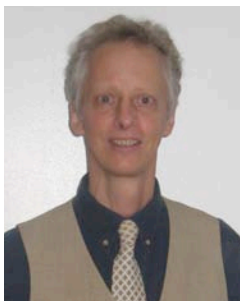
George Yancey is an Associate Professor of psychology at Emporia State University. In addition to running the undergraduate psychology internship program, he is also the Director of the Industrial-Organizational Psychology Masters Program. His recent publications focused on leadership, executive compensation, employee selection, and the recent recession. He is a S.H.R.M.

certified Senior Human Resources Professional and he is a member of the Journal Editorial Board for *The Psychologist-Manager Journal.* As a consultant, he helps diagnose organizational problems with employee and customer survey research and also helps companies build human resource systems such as compensation, performance appraisal, and employee selection systems. He is married to Jayashree George and they have a one year old daughter named Bijoya.

Mark C. Zrull
Appalachian State University

Mark C. Zrull is a Professor in the Dept. of Psychology at Appalachian State University. He teaches courses in Biological Psychology, selected areas of Behavioral Neuroscience, and a First Year Seminar as well as collaborating with undergraduate and graduate students in his research lab. Since 2004, Mark has worked on projects that integrate aspects of undergraduates' residence life and academic experiences such as Community of Science Interest (a Residential Learning Community, RLC), being a Residence Hall Faculty Fellow, and most recently the Brain Matters RLC. Dr. Zrull received his PhD in General Experimental Psychology from the University of South Carolina and was a postdoctoral fellow at the University of Wisconsin in Madison before joining the Appalachian State faculty in 1992.