VOLUME 3

A Journal of the
Center for Excellence in Teaching and Learning

EDITORIAL OFFICE
Center for Excellence in Teaching and Learning
Park University
8700 NW River Park Drive
Parkville, MO 64152
cetl@park.edu

EDITOR
B. Jean Mandernach, PhD, Park University

ASSOCIATE EDITORS
Amber Dailey, PhD, Park University
Emily Donnelli, PhD, Park University

COPY EDITORS
Megan Kean, MPA, Park University
Keith Snyder, BA, Park University

PEER REVIEW BOARD
Josephine C. Agnew-Tally, EdD, Park University
Virginia Brackett, PhD, Park University
Lisa M. Bunkowski, PhD, Park University
Kenneth Christopher, DPA, Park University
Lora Cohn, PhD, Park University
Amber Dailey, PhD, Park University
Kay Dennis, PhD, Park University
Emily Donnelli, PhD, Park University
Krista Forrest, PhD, University of Nebraska at Kearney
Ande Johnson, PhD, Park University
Rosemary Leary, PhD, Maricopa Community College
Teresa Mason, PhD, Park University
Kathleen McKinney, PhD, Illinois State University
Renee Michael, PhD, Rockhurst University
Donovan Obray, MBA, Park University
Jennifer Robinson, PhD, Indiana University
Brian Sloboda, PhD, Park University
Theresa Wadkins, PhD, University of Nebraska at Kearney
Hong Wang, PhD, Fort Hays State University
Kenneth Weaver, PhD, Emporia State University
Don Williams, EdD, Park University
Thimios Zaharapoulos, PhD, Park University

SUBSCRIPTION INFORMATION
InSight: A Journal of Scholarly Teaching is published annually as a free, refereed resource highlighting scholarly contributions to advance the practice and profession of teaching. Limited print journals are available upon request; online versions are available at www.park.edu/cetl/Insight.

CONTENTS
VOLUME 3 • 2008

Park University
InSight
A Journal of Scholarly Teaching
CENTER FOR EXCELLENCE IN TEACHING AND LEARNING

EDITORS' INTRODUCTION

EDITORIALS

SCHOLARLY ARTICLES

INFORMATION FOR CONTRIBUTORS

ACKNOWLEDGEMENTS

"Excellence is a better teacher than mediocrity.
The lessons of the ordinary are everywhere.
Truly profound and original insights are to
be found only in studying the exemplary."
~Warren G. Bennis

EDITORS' INTRODUCTION

In 2005, Park University created the Center for Excellence in Teaching and Learning (CETL) to support its goals for academic excellence. A faculty-driven resource, CETL provides University-wide resources to faculty and creates opportunities for reflection, dialogue and exchange of best practices. The mission of CETL is to promote the practice and profession of teaching at Park University. As a faculty resource, CETL works collaboratively across the University community to:

- Connect faculty with resources to enhance academic excellence.
- Promote a culture of reflective teaching practice to stimulate instructional innovation.
- Create opportunities for cross-disciplinary faculty collaboration and exchange.
- Recognize and reward faculty contributions to the scholarship of teaching and learning.

InSight: A Journal of Scholarly Teaching is a refereed journal published annually by CETL. The editorial staff invites submissions of research and scholarship that support faculty in improving the practice and profession of teaching. With an emphasis on classroom application, *InSight* articles highlight current practices in the scholarship of teaching and learning.

In this volume…

The articles in this volume each make a significant contribution to our understanding of the scholarship of teaching and learning. From the inspirational overview provided in the introductory editorial to the classroom investigations and innovations reflected in the faculty articles, the pieces in this volume inspire, spark debate, and advance scholarly reflections on teaching. We wish to sincerely thank the authors who contributed to this, the third volume, of *InSight: A Journal of Scholarly Teaching*. These pieces represent a commitment to quality teaching, innovative instruction and academic excellence in higher education. It is our hope that readers will be inspired to reflect upon their own teaching and continue the quest toward enhanced student learning.

--B. Jean Mandernach, Emily Donnelli, and Amber Dailey

"Those that know, do. Those that understand, teach."
~Aristotle

"A good teacher is a master of simplification and an enemy of simplism."
~ Louis A. Berman

Reflections on the Scholarship of Teaching and Learning

Richard L. Miller, PhD
Professor and Chair, Department of Psychology
University of Nebraska at Kearney

In his 1854 essay "The Idea of a University," John Henry Newman suggested that the primary purpose of the university is education: "a place for the communication and circulation of thought," a place where "one generation forms another." He contended that to discover and to teach were distinct functions and that "those who spend their time dispensing existing knowledge are unlikely to have the leisure or energy to acquire new" (p. 10).

In contrast, D. W. Hamlyn, in his commentary entitled "The Concept of a University," proposed that one of the enduring achievements of universities, dating back to the Middle Ages, was the scholarship of discovery: "If learning is to be pursued and if knowledge is to be enlarged there have to be institutions like universities, which have the double role of pushing back the frontiers of knowledge and of enabling future generations to carry on that process" (1996, p. 216).

At today's university the commitment to both scholarship and teaching seems incontrovertible. It is enshrined in mission statements, strategic plans, and promotion and tenure guidelines. This recognition of the University's dual purpose has led to an unfortunate division between teaching and research; a division recognized by the meta-analysis of 58 studies conducted by Hattie and Marsh (1996) that found no relationship between research productivity and teaching effectiveness. Their recommendation was that universities should aim to increase the circumstances where teaching and research meet.

How can this be done? In his landmark work, *Scholarship Reconsidered: Priorities of the Professoriate*, Ernest Boyer (1996) broadened the traditional definition of scholarship to include four distinct types of scholarship: the scholarship of discovery, the scholarship of integration, the scholarship of application, and the scholarship of teaching and learning.

Teaching is undervalued at the academy, not because colleges and universities don't care about teaching, but because what and how we teach is not generally shared with a community of scholars.

The scholarship of teaching and learning is an academic endeavor that, until recently, many faculty members at research oriented institutions could not have undertaken and still attain tenure. As Lee Schulman (1993) suggested in a foundational essay entitled "Teaching as Community Property: Putting an End to Pedagogical Solitude," teaching is undervalued at the academy, not because colleges and universities don't care about teaching, but because what and how we teach is not generally shared with a community of scholars. He called for reconnecting teaching to the disciplinary communities in which teachers conduct their scholarship, thus making pedagogical issues available for peer review and reflection. Since that time, the scholarly investigation of teaching and learning has grown in its reputation as a bona fide field of inquiry (Hutchings & Schulman, 1999). For us at the academy, the basis for researchable questions is rooted in everyday experience; the realization that Parker Palmer articulated, after twenty years of teaching, that he would "never master this baffling vocation" (1999, p. 9).

Most college and university faculty spend much of their time and energy teaching, and most take teaching seriously, often asking questions about how and why students do or do not learn. In fact, teaching imperfections can form the grist for our collective mill in formulating hypotheses about pedagogical scholarship. For example, within any discipline, we might examine innovative ways of integrating

information that stimulate students' intellectual curiosity. The innovation could be a new way of combining two topics, a new technology that accelerates learning or makes transfer more probable, or a framework for integrating seemingly diverse concepts. The challenge is to ground our teaching in a theoretical framework and to base our approaches on empirical evidence that addresses how students learn when exposed to different pedagogical approaches. Pat Hutchings (1999) of The Carnegie Academy for the Scholarship of Teaching and Learning (CASTL) has suggested that the desired outcomes of this endeavor should be a scholarly body of work that:

1. fosters significant, long-lasting learning for all students;
2. enhances the practice and profession of teaching; and
3. brings to faculty's work as teachers the recognition and reward afforded to other forms of scholarly work.

With these goals in mind, the scholarship of teaching and learning can examine a number of basic questions. Perhaps one of the most basic questions concerns how students learn. Some unanswered questions about the learning process include: How can teachers promote self-regulated learning, what techniques can be used to reduce anxiety and other barriers to learning, what concepts are most readily understood using experiential techniques, and what practices promote learning autonomy?

A second major area addressed by the scholarship of teaching and learning is the effectiveness of different teaching approaches. Some issues with unanswered questions include the value of collaborative learning, the use of technology in the teaching/learning process, techniques for building rapport and the importance of rapport on student outcomes, the use of Gestalt teaching techniques, or the effectiveness of analogy-enhanced teaching.

The scholarship of teaching and learning can make a meaningful contribution to our body of knowledge by providing a forum for a useful, shared understanding about pedagogical processes and learning outcomes, and how both may be assessed.

Curriculum development can also be informed by the scholarship of teaching and learning. The use of scaffolding, the value of rubrics, how our teaching relates to Bloom's taxonomy and the use of interdisciplinary approaches to teaching are all issues that can be informed by research.

As one final example, the approaches that we take to the process of assessment can be enhanced by the scholarship of teaching and learning. While many faculty remain skeptical about external mandates for assessment, the process can focus on important questions that can make a real difference in the teaching/learning process including: how students learn to think critically within the context of a discipline, what approaches assist students in making ethical decisions, and how students learn what has been called the "covert" curriculum.

According to Aristotle, "teaching is the highest form of understanding." The scholarship of teaching and learning provides an opportunity for faculty across disciplines to share that understanding by engaging in serious intellectual work. Thus, the scholarship of teaching and learning can make a meaningful contribution to our body of knowledge by providing a forum for a useful, shared understanding about pedagogical processes and learning outcomes, and how both may be assessed.

References

Boyer, E. L. (1990). *Scholarship reconsidered: Priorities of the professoriate.* Princeton, NJ: Carnegie Foundation for the Advancement of Teaching.

Hamlyn, D. W. (1996). The concept of a university. *Philosophy, 71,* 205-218.

Hattie, J., & Marsh, H. W. (1996). The relationship between research and teaching: A meta-analysis. *Review of Educational Research, 66*(4), 507-542.

Hutchings, P., & Schulman, L. S. (1999, September/October). The scholarship of teaching: New elaborations, new developments. *Change,* 11-15.

Palmer, P. J. (1999). *The courage to teach: Exploring the inner landscape of a teacher's life.* San Francisco: Jossey-Bass.

Newman, J. H. (1990). *The idea of a university.* South Bend, IN: University of Notre Dame Press. (Original work published in 1854)
Schulman, L. S. (1993, November). Teaching as community property: Putting an end to pedagogical solitude. *Change*, 6-7.

Rick Miller received his PhD in 1975 from Northwestern University. He has taught at Georgetown University, the University of Cologne, and is currently 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. He is a recipient of the University of Nebraska system award for "Outstanding Teaching and Instructional Creativity" and the Pratt-Heins Foundation Award for Scholarship. Under his leadership, the Department of Psychology was awarded the 1999 Outstanding Teaching Department Award from the University of Nebraska.

Trading Zones: Building Connections to Past Research in the Scholarship of Teaching and Learning

Bruce Kelley, PhD
Associate Professor, Department of Music
University of South Dakota

Faculty face significant challenges when moving into scholarship of teaching and learning (SoTL) for the first time. Perhaps the greatest of these challenges is the act of building connections to past research, both within the individual scholar's field, and more broadly across the disciplines. This article examines the nature of this challenge, and how it can be partially mitigated through collaboration. The challenge, however, is monumental, and a national mandate must be issued for the creation of a scholarship of teaching and learning database that is easily accessible to faculty across the United States and the world.

Scholarship of teaching and learning (SoTL) has become an authentic and recognized field for faculty research. Boyer (1990) gave this movement great impetus when he identified teaching as a key element in how scholarship is redefined. Faculty face significant challenges, however, when moving into this field of inquiry for the first time. Perhaps the greatest of these challenges is the act of building connections to past research, both within the individual scholar's field, and more broadly across the disciplines. This article examines the nature of this challenge, and how it can be partially mitigated through collaboration. The challenge, however, is monumental, and a national mandate must be issued for the creation of a SoTL database that is easily accessible to faculty across the United States and the world.

The Nature of the Challenge

Exemplary scholarship in teaching and learning has several distinguishing features, including its attention to prior research and the intention of the scholar to disseminate new findings to a wide, cross-disciplinary audience.

Exemplary scholarship in teaching and learning has several distinguishing features, including its attention to prior research and the intention of the scholar to disseminate new findings to a wide, cross-disciplinary audience. Huber & Hutchings (2005) affirmed that:

> The scholarship of teaching and learning invites faculty from all disciplines and fields to identify and explore . . . questions in their own teaching—and, especially, in their students' learning—and to do so in ways that are shared with colleagues who can build on new insights. In this way, such work has the potential to transform higher education by making the private work of the classroom visible, talked about, studied, built upon, and valued—conditions for ongoing improvement in any enterprise (p. ix).

The transformation of higher education through SoTL is dependent on shared ideas and insights, but that sharing must also occur in an environment of critical reflection:

> An act of intelligence or of artistic creation becomes scholarship when it possesses at least three attributes: it becomes public; it becomes an object of critical review and evaluation by members of one's community; and members of one's community begin to use, build upon, and develop those acts of mind and creation (Shulman, 1999, p. 15).

Critical review of SoTL research is essential to building the type of scholarship that Boyer envisioned. While there is tremendous variation in the approaches used by scholars of teaching and learning (see Weimer, 2006, for example), there is growing consensus that SoTL must adhere to certain standards. As early as 1996, Cross and

Steadman described the rigor that must be a part of solid research in teaching and learning:

> Classroom Research is intellectually demanding and professionally responsible. It builds upon the knowledge base of research on teaching and learning. It requires the identification of a researchable question, the careful planning of an appropriate research design, and consideration of the implications of the research for practice. (p. 3)

D'Andrea (2006) acknowledged that:

> No matter what disciplinary methodologies are selected, in all cases it is essential to be able to start by clearly identifying the following elements: the teaching and learning question to be investigated, how it was conceptualized within the context of the subject being taught, the rationale for its consideration and its potential for improving teaching and learning, the scholarly work on this aspect of teaching and learning that has preceded it, and the reason it is an important question to explore. (p. 94)

It is clear that an important element of good scholarship in teaching and learning is the ability to connect to prior work, and many faculty are genuinely interested in doing so. However, this represents a significant investment of time on the part of the faculty researcher—time spent learning what is often a new field of study.

Current research, both of these authors agree, must be rooted in prior scholarship if it is to be effective. Faculty members themselves report that they have a desire to connect their work into the greater context of earlier research. A survey of CASTL scholars conducted by Cox et al. (2004) asked respondents to list the reasons why they had become involved in SoTL. For the question "I wanted to connect my interests in teaching and learning to a recognized body of research," 50% of the respondents stated the reason was very important, and 42% said that the reason was somewhat important (Huber & Hutchings, 2005, p. 22). It is clear that an important element of good scholarship in teaching and learning is the ability to connect to prior work, and many faculty are genuinely interested in doing so. However, this represents a significant investment of time on the part of the faculty researcher—time spent learning what is often a new field of study.

Rigorous bibliographic inquiry to obtain familiarity (let alone expertise) with prior research is critical. This inquiry into unfamiliar areas of research, however, often pushes faculty beyond their comfort zone, and can dampen enthusiasm for SoTL projects:

> Indeed, many who start looking more closely at their own teaching and their students' learning feel as if they are moving out of their most familiar scholarly worlds. Their closest colleagues in their disciplinary subspecialties may not be along for the ride, their departmental colleagues may not (yet) be interested. For would-be scholars of teaching and learning, it is often like taking up a new line of work at an oblique angle to what they have done before. This can be exhilarating, not least because it focuses on concerns very close to oneself, but it is often accompanied by anxieties familiar to any scholar venturing into a new intellectual world where conventional disciplinary dispositions do not so clearly pertain. (Huber & Hutchings, 2005, p. 68)

Faculty who are interested in the scholarship of teaching and learning may face isolation, especially in terms of finding colleagues within their own department or discipline who have expertise in and knowledge of prior scholarship in teaching and learning.

Isolation is not the only problematic factor. Weimer (2006) declared, rather discouragingly, that:

> . . .with most instructional topics it is not humanly possible to track down all the relevant work. It has been conducted across multiple fields and has

> appeared in a wide range of sources, including places where you'd never think to look for pedagogical material. . . . the various knowledge bases for teaching and learning are not well organized or well integrated. (p. 177)

This lack of integration and organization is a serious obstacle. Most proposed studies in SoTL should have a literature review conducted along at least two axes. First, the study should connect with pedagogical research that has been done within the discipline. Second, the study should connect to the broader cross-disciplinary use and application of the type of learning activity being studied. For example, an article examining the impact of using writing-to-learn exercises in a music theory course should review the major pedagogical movements in music theory, and also examine how writing-to-learn has been used in other fields beyond music to improve learning—a daunting task indeed! It is often virtually impossible for a single faculty member to thoroughly investigate the broader body of research that has occurred both within the discipline and within the history of the learning activity/teaching technique.

We must connect to the wider community of scholars who are interested in the scholarship of teaching and learning—we must, in a word, collaborate!

Herein lies the crux of the problem. Good scholarship is grounded in the research that precedes it. As Weimer (2006) exhorts: "Good pedagogical scholarship is well documented" (p. 178). And yet the process of documentation often represents a departure from the faculty member's traditional line of research, requires a significant expenditure of time, and may not even be recognized as an integral part of one's research portfolio by recalcitrant promotion and tenure committees. So how do we as faculty most efficiently use our time to adequately build a foundation for our research? We must connect to the wider community of scholars who are interested in the scholarship of teaching and learning—we must, in a word, collaborate!

Collaboration

Collaboration is a key component in developing the context for SoTL research. Huber & Hutchings recognized the importance of this in their call for establishing the "teaching commons":

> . . . communities of educators committed to pedagogical inquiry and innovation come together to exchange ideas about teaching and learning, and use them to meet the challenges of educating students for personal, professional, and civic life in the twenty-first century. All who are committed to this teaching mission, we conclude, must seek ways to make new pedagogical practices, tools, and understandings broadly available, not only by building the teaching commons but also by protecting it and ensuring access. (p. x)

Collaboration can take place in a number of ways. Perhaps the most effective strategy is to find colleagues who are interested in SoTL on one's own campus. Many campuses have lecture series featuring faculty who talk about best practices in teaching. Larger institutions may have a center for teaching and learning, and smaller campuses may have an individual who serves as a contact point for teaching and learning issues. Such a center or contact point might be able to help write literature reviews, design studies, or identify potential research partners (both on- and off-campus). I would be remiss if I did not mention the college/university librarians, who are invaluable resources for research help, whatever type of institution with which you may be affiliated. Reading groups, communities of purpose, or even less formal groups that meet for coffee or lunch, or even in carpools, can be an important resource. As colleagues are gathered in, the group is strengthened by the talents and expertise of each new individual. The whole is truly greater than the sum of its parts. It is vitally important to build a core of faculty on campus who are interested in encouraging and helping each other produce scholarship in teaching and learning that has lasting value.

Beyond one's campus, websites, blogs and newsgroups abound, and membership and participation in them may open sources to relevant research, both within and beyond one's own discipline. Indiana University-Bloomington, for example, maintains a marvelous website dedicated to helping faculty find relevant literature on SoTL resources (www.libraries.iub.edu/ index.php?pageId=3208), as does Iowa State University's Center for Excellence in Learning and Teaching (http://www.celt.iastate.edu/sotl/resources.html), to name just two examples. A web search on "SoTL resources" will bring up many other sites to help one get started. Many disciplines and professional groups have pedagogical newsgroups and newsletters, and often have journals dedicated to pedagogy. Examples include the *Journal of Music Theory Pedagogy*, *Teaching History*, the *Journal for Chemical Education*, *Teaching of Psychology Journal*, the *Journal of Education for Business*, and so forth. Some journals have listservs or forums for subscribers where teaching ideas and resources are regularly shared. Conferences on teaching and learning, such as the Lilly, CASTL, or Collaboration conferences, are highly informative and allow one to establish friendships and mentors that transcend geographic and disciplinary boundaries. In addition to developing new colleagues, these conferences help one become more familiar with literature and research in other disciplines.

Many professional organizations sponsor day- or week-long workshops on pedagogical issues within specific fields of study. Examples include the "Achieving Student Success in the College Mathematics Classroom Conference," or the "CMS/Julliard Institute for Music History Pedagogy." These intensive experiences have great value. As one of my colleagues suggested, "meaningful collaboration, at least for me, takes place when I can get together in a structured environment with people who are interested in answering some of the questions I'm interested in answering, [and] in solving some of the problems I'm interested in, as well. And the interaction has to be sustained over a period of time—a couple of days or a week—to be truly effective" (C. Ervin, personal communication, March 21, 2008). Learned Societies often have a Teaching Section or Subcommittee that sponsor pedagogically-focused paper sessions or roundtable discussions during annual meetings, and may have a standing committee on education/pedagogy. Some societies have on-line resources related to teaching and learning, such as the "Teaching and Curriculum" section of the American Accounting Association's website. Maintaining personal links with colleagues one has met through conferences or in other ways is often no more difficult than through an informal e-mail group: "We share ideas, book titles, websites, and our own experiences in a very informal way. If someone is having an especially difficult time (that first round of teaching evals after the first semester of teaching is always harrowing) we rally 'round and share encouragement and horror stories" (E. Hanson, personal communication, March 21, 2008). Huber (2006) promoted the positive elements of collaboration as well:

> In the end, for most who try it out, engaging in the scholarship of teaching and learning entails entering a cross-disciplinary "trading zone" (Huber and Morreale, 2002) where one finds and experiments with what's on offer from other fields. This is where most scholars of teaching and learning discover the classic literature from education; techniques they can adapt, like cognitive psychology's think-aloud protocol for investigating how experts and novices go about a task; and reports on new work in the learning sciences. (p. 73-74)

While collaboration is an often highly successful stopgap to the problem of placing new scholarship into context with prior scholarly work, it does not satisfactorily represent the final solution for connecting past and present research. To this end, serious contemplation must be given to the creation of a national SoTL database.

While collaboration is an often highly successful stopgap to the problem of placing new scholarship into context with prior scholarly work, it does not satisfactorily

represent the final solution for connecting past and present research. To this end, serious contemplation must be given to the creation of a national SoTL database.

The National Database on SoTL

Most faculty simply do not have time to develop an entirely new strand of research, and yet the increasing rigor demanded of SoTL insists on a solid bibliographic foundation. What is needed is a national database that cross-references pedagogical articles by a variety of identifiers, including (but not limited to) the following.

Table 1: Potential Search Fields for a National SoTL Database

Subject (general, i.e., Chemistry)	Subject (specific, i.e., Organic Chemistry)
Course Title	Course Content
Targeted topic or concept (i.e., "nomenclature")	Learning Technique (general, i.e., Writing-to-Learn)
Learning Technique, specific (i.e., Directed Free Write)	Educational Goal
Size of Class	Institutional Profile (2-year, 4-year, private, public, Tribal, HBC, residential, commuter, etc.)
Nationality of Institution	Type of class (i.e., lecture, studio, lab, honors, foundations, etc)
Type of Research (as defined by Weimer, 2006)	Assessment measure
Time of semester	Size of study
Use of blind/double blind procedure	Type of statistical analysis
Career stage of teacher (GTA-Full Professor)	On-line, blended, or face-to-face delivery system

Ideally, faculty members would use the database to generate citations related to a number of search variables, and find the research stream that would enable them, with moderate effort, to accurately lay the foundation for their own work in previous research. The database would need to be expansive, for as Weimer (2006) notes the research is found in a multitude of sources. Creating such a database would not be easy, but neither is it impossible. Chemical Abstracts (CAS) databases contain more than 27 million bibliographic records from journal and patent literature, with 170 million citations. ERIC contains over 1.2 million citations, and offers thousands of full texts on-line for free. While ERIC is a wonderful resource for potential SoTL researchers, its content and search engine is not configured optimally for SoTL. As with CAS and ERIC, the creation of the database would require a significant outlay of capital from either a private foundation or a public partner. It would be worth the cost—a National SoTL Database would greatly ease the time burden of faculty who are designing potential studies, would facilitate the process of bridging current and past research and would greatly enhance scholarship of teaching and learning.

Conclusion

> Huber and Hutchings (2005) state that:
> If the scholarship of teaching and learning is a phenomenon at the intersection of older lines of work, it is also a movement with new dimensions, new angles, new ambitions. Practices and insights borrowed from various traditions and communities are being adopted by a different and wider group of educators, and, as a consequence, adapted to new purposes and opportunities. Like other new areas of work, this one is a moving target, still taking shape as a larger community of practice forms around it, and as conventions and standards develop around emerging interests and needs. (p. 17)

While SoTL is a fairly new movement, it has matured to the point where serious consideration should be given to the creation of a national database to aid faculty researchers. It is time for the knowledge base for teaching and learning to become both well organized and well integrated. Until that happens, however, collaboration will be the primary way that faculty negotiate the difficulties of placing their scholarly inquiry into context with prior research—the "trading zones" of interdisciplinary pedagogical cooperation.

References

Boyer, E. (1990). *Scholarship reconsidered: Priorities of the professoriate*. New York: The Carnegie Foundation for the Advancement of Teaching.

Cox, R., Huber, M. T., & Hutchings, P. (2004). *Survey of carnegie scholars*. Stanford, CA: The Carnegie Foundation for the Advancement of Teaching.

Cross, K. P., & Steadman, M. H. (1996). *Classroom research: Implementing the scholarship of teaching*. San Francisco: Jossey Bass.

D'Andrea V. (2006). Exploring methodological issues related to pedagogical inquiry in higher education. In Kreber, C. (ed.), *Exploring research-based teaching*. New Directions for Teaching and Learning, no. 107. San Francisco: Jossey-Bass

Huber, M. T. (2006). Disciplines, pedagogy, and inquiry-based learning about teaching. In Kreber, C. (ed.), *Exploring research-based teaching*. New Directions for Teaching and Learning, no. 107. San Francisco: Jossey-Bass.

Huber, M. T. & Hutchings, P. (2005). *The advancement of learning: Building the teaching commons*. San Francisco: Jossey-Bass.

Huber, M. T. & Morreale, S. P. (Eds.). (2002). *Disciplinary styles in the scholarship of teaching and learning*. Washington, D.C.: American Association for Higher Education.

Shulman, L. (1999). Taking learning seriously. *Change*, *31*(4), 10-17.

Weimer, M. (2006). *Enhancing scholarly work on teaching & learning: Professional literature that makes a difference*. San Francisco: Jossey-Bass.

Special Thanks

Collaboration was vital to the development of many of the ideas in this article, and I would like to recognize those who contributed to this essay: Chris Ervin, Barb Goodman, Karen Kostel, Laura Furlan, Elizabeth Hanson, Betty Smith, Michael Card, Liane Grayson, Srini Ragothaman, Malene Little, Patricia Downey, Kathy Jorgensen, and Greg Huckabee. Thanks to all of you.

Bruce Kelley serves as the Founding Director of the Center for Teaching and Learning and an Associate Professor of Music at The University of South Dakota. He holds a BM from Nebraska Wesleyan University in Trombone Performance, and an MA and PhD in Music Theory from The Ohio State University.

An Apology for the Scholarship of Teaching and Learning

Jacqueline M. Dewar, PhD
Professor, Department of Mathematics
Loyola Marymount University

This paper provides a defense of the scholarship of teaching and learning (SoTL). It first examines the roots of SoTL. It then offers examples of SoTL investigations that can be pursued in any discipline and places them within a taxonomy of SoTL questions. It suggests that SoTL might serve as a natural and organic response to the changing landscape and challenges of higher education in the 21st century. The paper closes with resources and suggested entry points into this work for interested faculty and institutions.

The January 2008 issue of *International Commons* (Chick, 2008), the newsletter for the International Society for the Scholarship of Teaching and Learning, provides evidence that the scholarship of teaching and learning (SoTL) movement is undergoing some introspection. Articles question the role of the disciplines in the scholarship of teaching and learning (p. 1, 2, 10-11), state that there is no single national perspective on SoTL in the United States (p. 4), and offer a draft statement by the leaders of the CASTL (Carnegie Academy of the Scholarship of Teaching and Learning) team on the impact of SoTL intended "as a starting point for a discussion that will lead us to a better understanding of the nature of SoTL impact" (p. 13). The appearance of these introspective pieces written by leaders of the SoTL movement suggests there might be value in constructing a defense of SoTL at this time. This paper presents such an "apology" by first examining the roots of SoTL and making distinctions among closely related topics. To clarify and illuminate the scholarly work known as SoTL, it supplies examples and applications of SoTL investigations in a variety of disciplines, casts them in a way that allows consideration by scholars from multiple fields, and situates them within a taxonomy of SoTL questions. The paper then describes the ways in which SoTL addresses many challenges facing higher education in the 21st century. It concludes by suggesting resources and entry points for faculty and institutions interested in pursuing the scholarship of teaching and learning.

Describing the Scholarship of Teaching and Learning

The scholarship of teaching and learning (SoTL) has engendered many descriptions since Ernest Boyer (1990) introduced the phrase "scholarship of teaching" into the vocabulary of higher education in his book, *Scholarship Reconsidered.* In it, he proposed that colleges and universities needed a fresh vision of scholarship in order to tap the full range of faculty talents and to encourage vital connections between academic institutions and their local communities. He labeled and described four types of scholarship: discovery, application, integration and teaching, and he discussed characteristics of SoTL but did not define it. As President of the Carnegie Foundation for the Advancement of Teaching, Boyer brought national and international attention to SoTL, but others had discussed similar concepts before his book. For example, Cross (1986) argued that faculty across the nation should undertake research on teaching and learning in their own college classrooms in order to discover more effective teaching methods and establish a body of knowledge about college teaching that would maximize learning. Later, the next Carnegie President Lee Shulman and Vice President Pat Hutchings would state that the scholarship of teaching is integrating the experience of teaching with the scholarship of research (Hutchings & Shulman, 1999).

More recently, Carnegie Senior Scholars Mary Huber and Pat Hutchings (2005) have "come to embrace a capacious view of the topic, wanting to draw this movement in the broadest possible terms" (p. 4). They see SoTL ranging from

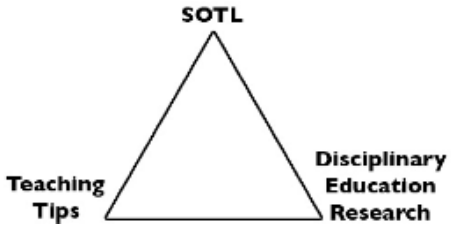
modest investigations that document the teaching and learning in a single classroom, the results of which are shared with others, to studies with elaborate research designs that go well beyond a single classroom. For the purposes of this article, we define SoTL as *the intellectual work that faculty do when they use their disciplinary knowledge to investigate a question about their students' learning, submit their findings to peer review, and make them public for others in the academy to build upon*.

Scholarly teachers and their teaching must be informed not only by the latest developments in their field but also by research about instructional design and methods of assessing student learning and teaching in their field.

One of the many sources of confusion about this work and its value to higher education is the need to draw distinctions among "good teaching," "scholarly teaching" and the "scholarship of teaching and learning." Ronald Smith (2001) writes that good (or better) teaching is defined and measured by the quality of student learning, while scholarly teaching requires something more. Scholarly teachers and their teaching must be informed not only by the latest developments in their field but also by research about instructional design and methods of assessing student learning and teaching in their field. Based on this research, scholarly teachers make choices about instruction and assessment for their classes and their students. Practitioners of the scholarship of teaching and learning contribute to this knowledge base by carrying out research on teaching and learning. This SoTL research can involve aspects of discovery, application and integration and is intended to improve practice within and beyond the investigators' own classrooms.

Another distinction worth making is how SoTL differs from pedagogical strands within individual disciplines. Frequently, major disciplinary conferences will host some sessions that would best be described as "teaching tips" and others that would be identified as educational or pedagogical research within the discipline. It is important to understand how these different strands relate to the scholarship of teaching and learning. Figure 1 provides one model for this relationship by placing the labels "teaching tips," "scholarship of teaching and learning," and "disciplinary education research" at the three vertices of an equilateral triangle. Teaching tips describes a teaching method or innovation that the instructor and students 'liked.' As one begins to systematically gather evidence from students about what (if any) cognitive or affective effect the method had on their learning, one is moving toward scholarship of teaching and learning. The third vertex of the triangle, disciplinary educational research (for example, physics education research or research on undergraduate mathematics education), matches up quite well with Boyer's scholarship of discovery. In this type of educational research within a discipline, research methodologies, theoretical frameworks, empirical studies, reproducible results, control groups, and so on command greater importance than is typically found in SoTL. Of course, rarely does a single piece of scholarship sit exactly at one vertex. Huber and Hutchings' view is that there can be a big tent whose purpose is to improve the teaching and learning as a whole (2005).

Figure 1: Situating SoTL Work within a Disciplinary Pedagogical Spectrum



Examples of SoTL

In SoTL, just as in any discipline, studying examples can greatly assist understanding. Scholars from ten different fields provide examples and describe the evolution of SoTL work in their respective fields in Huber and Morreale (2002). Their essays testify to both disciplinary differences and shared spaces in this work. Here is a collection of SoTL questions adapted from recent SoTL work in the field of mathematics (Bennett and Dewar, 2007; Dewar, 2008; Zachariah, Larson and Dewar, 2006) and reframed in such a way as to be approachable in virtually any discipline.

1. Questions about the signature method for determining truth or generating new knowledge in a discipline:
   (a) How does ---*fill in a discipline*--- majors' understanding of ---*signature method within a discipline*--- evolve as they move through the curriculum?
   (b) What courses or other learning experiences have the greatest effect on the development of their understanding of ---*signature method within a discipline*---?

   More specifically, in mathematics, these questions become: As mathematics majors move through the curriculum, how does their understanding of proof evolve and which courses or other learning experiences contribute the most to their understanding of proof? In sociology, faculty would ask: How does sociology majors' understanding of the sociological imagination evolve as students move through the curriculum and what exerts the greatest influence on their development of understanding? In science, the question would be about student understanding of the scientific method.
2. Questions about defining the discipline itself:
   (a) How do K-12 future teachers describe ---*fill in a discipline*---?
   (b) How does their description compare to that of experts in the field?
   (c) How much can a single course shift future teachers' views toward that held by experts and what in that course is responsible for the shift?

   For example, one might inquire: What do future teachers think that history or mathematics is really about? Do they think that history is just learning the dates and details of past events or that mathematics is simply the study of numbers and their applications? How do these views compare to those held by faculty in the history or mathematics departments? Can a single course encourage students to adopt a more expert perspective?
3. Questions about connecting the discipline to real life:
   (a) How does the addition of a civic engagement component to a ---*fill in the discipline*--- course influence student learning and attitudes towards ---*fill in the discipline*---?

   As an example: What might happen if semester-long group projects on local community or campus issues like parking, student health center use, or financial planning after graduation were incorporated into a general education mathematics course? Is it possible that students would learn more or make new connections between the classroom and daily life or change their attitudes about the value of learning mathematics?

The above questions can be categorized according to what has developed into a taxonomy of SoTL questions:

- What-is? (These questions examine a current situation in an attempt to describe it fully, as #1(a), 2(a), and 2(b) above do.)
- What-works? (These questions seek evidence for the effectiveness of a particular method or approach, as #1(b) and 2(c) do.)
- What-could-be? (These questions provide a vision of what is possible, such as #3(a).)

In *Opening Lines,* Hutchings (2000) describes these three and a fourth type of investigation, one that leads to a new framework or conceptual model for understanding some aspect of teaching and learning. It is common for SoTL investigations to begin with "What-works" questions but in the process of reframing the questions to make them more researchable they morph into "What-is" questions. Sometimes SoTL projects involve several different types of questions simultaneously.

SoTL work is rarely considered in the same light as traditional disciplinary research unless one's field happens to recognize disciplinary pedagogical research such as physics education within the field of physics. As a result, the question naturally arises: *By what standards should SoTL work be evaluated?* Glassick, Huber, and Maeroff (1997) provided the first significant response to this concern. In *Scholarship Assessed,* they assured the academy that SoTL is judged by the same criteria as the traditional scholarship of discovery: clear goals, adequate preparation, appropriate methods, significant results, effective presentation, and reflective critique and suggested a series of questions to further explicate each criterion (Glassick, et al, 1997, p.36, Exhibit 2.1).

SoTL work is rarely considered in the same light as traditional disciplinary research unless one's field happens to recognize disciplinary pedagogical research. As a result, the question naturally arises: *By what standards should SoTL work be evaluated?*

Why Bother with SoTL?

How much colleagues, departments and institutions "count" SoTL varies widely. SoTL is often considered to be a nice "add-on" to a record of traditional disciplinary research, especially when the SoTL work is seen as cross- or inter-disciplinary. So why should a faculty member or an institution be interested in pursuing or supporting SoTL? Because the landscape of higher education has changed tremendously in the last several decades a number of reasons can be offered. Increasingly student bodies are more diverse, with ever-larger percentages of high school students entering college. In 1960 only 45% of students completing high school entered college within twelve months as opposed to 66% in 2006 (National Center for Education Statistics, 2007). This is but one factor contributing to the continually transforming generational divide evidenced in the *Beloit College Mindset List* (2007). Technology offers many new options for instruction and neuroscience has made new discoveries about the physical basis of learning (Leamnson, 1999). Each of these advances holds implications for teaching that present numerous opportunities for SoTL investigations.

SoTL also offers faculty a means other than student or peer evaluations to document their teaching and their students' learning for merit, tenure and promotion applications. Increasing calls for assessment and greater accountability in higher education present institutions and faculty with yet another challenge. By asking and answering SoTL questions like those listed above, faculty can find out how well they are teaching, how well their students are learning, and they obtain insights for making improvements. Suddenly SoTL begins to sound a lot like assessment. This is because, although they are distinct, SoTL and assessment possess great synergy. Faculty who do SoTL work are likely to develop a mindset that is positively disposed toward assessment. A student's B+ grade in calculus, typically an amalgamation of homework, quizzes, tests and/or papers, would by itself never be sufficient to answer a What-is, What-works, or What-could-be SoTL question.

So it is natural for a SoTL practitioner to conclude that grades alone do not tell if or how well a student mastered a desired learning outcome. SoTL questions often probe deeply into learning outcomes. For example, demonstrating an understanding of and being able to use the signature method for generating new

results in a given discipline (such as proof in mathematics) would be an obvious learning outcome for a degree program in that discipline. Moreover, faculty who asked and attempted to answer SoTL questions have had to gather evidence that goes beyond grades on assignments and tests and they have done so systematically. As a result, they have very likely developed a skill-set that would be useful in assessment. Some of the course or department level SoTL investigations can even scale up to the institutional level. Finally, SoTL can strengthen faculty development efforts and lead to involvement either individually or institutionally in national or international higher education initiatives. All in all, it seems that SoTL offers great promise in addressing many of the challenges facing higher education and can directly benefit faculty practitioners and their students.

All in all, it seems that SoTL offers great promise in addressing many of the challenges facing higher education and can directly benefit faculty practitioners and their students.

Additional Resources for Pursuing SOTL

As a result of its development into an international movement, the number of resources available to support the scholarship of teaching and learning continues to grow. The Carnegie Foundation for the Advancement of Teaching (http://www.carnegiefoundation.org) and the International Society for the Scholarship of Teaching and Learning (http://www.issotl.org) provide support and examples of this work. For faculty interested in pursuing this scholarly endeavor, McKinney (2007) can serve as a very useful and practical guide. Since 2002 the Carnegie Academy for the Scholarship of Teaching and Learning (CASTL) Summer Institute has been providing mentoring for SoTL scholars under the auspices of the Carnegie Foundation's CASTL Leadership Initiative (www2.creighton.edu/castl2008). Colleges and universities prepared to make a commitment to the scholarship of teaching and learning by exploring the place of such work in their settings can find recognition and support by joining the Carnegie CASTL Affiliates program.

Conclusion

This "apology" for the scholarship of teaching and learning has examined the initiation of the movement and sought to distinguish it from closely related topics and pedagogical concerns within individual disciplines. It offered examples of SoTL investigations that could be pursued in virtually any discipline and placed them within a taxonomy of SoTL questions. It reprised the question of how SoTL is valued and evaluated. Finally, it explored the relevance of SoTL to higher education in the 21st century, offered several resources and suggested entry points into this work for interested faculty and institutions.

References

Beloit College Mindset List. (2007). Retrieved October 4, 2007, from http://www.beloit.edu/~pubaff/mindset/

Bennett, C. & Dewar J. (2007). Developing and applying a taxonomy for mathematical knowledge-expertise. *Electronic proceedings for the tenth special interest group of the Mathematical Association of America on Research in Undergraduate Mathematics Education Conference on Research in Undergraduate Mathematics Education.* Available from http://www.rume.org/crume2007/eproc.html

Boyer, E. (1990). *Scholarship reconsidered: Priorities of the professoriate*. Princeton, NJ: The Carnegie Foundation for the Advancement of Teaching.

Chick, N. (Ed.). (2008, January). *The International Commons, 3*(1). Available from www.issotl.org/newsletter.html

Cross, K. (1986). A proposal to improve teaching or what 'taking teaching seriously' should mean. *AAHE Bulletin, 39*(1), 9-14.

Dewar, J. (2008). What is mathematics: Student and faculty views. *Electronic Proceedings for the Eleventh Special Interest Group of the Mathematical Association of America on Research in Undergraduate Mathematics Education Conference on Research in Undergraduate Mathematics Education.* Available from http://cresmet.asu.edu/crume2008/Proceedings/Proceedings.html

Glassick, C. E., Huber, M. T. & Maeroff, G. I. (1997). *Scholarship assessed: Evaluation of the professoriate*. San Francisco: Jossey-Bass.

Huber, M. T. & Hutchings, P. (2005). *The advancement of learning: Building the teaching commons.* San Francisco: Jossey-Bass.

Huber, M. T. & Morreale, S. (2002). *Disciplinary styles in the scholarship of teaching and learning: Exploring common ground*. Sterling, Virginia: Stylus.

Hutchings, P. (2000). *Opening lines: Approaches to the scholarship of teaching and learning.* Menlo Park, CA: Carnegie Foundation.

Hutchings, P. & Shulman, L.S. (1999). The scholarship of teaching: New elaborations, new developments. *Change*, *31*(5), 10-15.

Leamnson, R. (1999). *Thinking about teaching and learning: Developing habits of learning with first year college and university students*. Sterling, Virginia: Stylus.

McKinney, K. (2007). *Enhancing learning through the scholarship of teaching and learning*. Bolton, MA: Anker Publishing.

National Center for Education Statistics. (August, 2007). Retrieved April 2, 2008 from http://nces.ed.gov/programs/digest/d07/tables/dt07_191.asp

Smith, R. (2001). Formative evaluation and the scholarship of teaching and learning. In C. Knapper & P. Cranton (Eds.) *Fresh approaches to the evaluation of teaching. New Directions for Teaching and Learning, no. 88*. San Francisco: Jossey-Bass.

Zachariah, T., Larson, S. & Dewar, J. (2006). *An emerging model: Quantitative literacy through community-based group projects.* Retrieved April 4, 2008 from http://www.sencer.net/Resources/pdfs/Models_Print_Web_2006/Quantitative_Literacy_Model.pdf

Jacqueline Dewar, PhD, has taught mathematics for 35 years at Loyola Marymount University and been involved in faculty development for two years. She was a 2003-4 Carnegie scholar and received the Mathematical Association of America's Deborah and Franklin Tepper Haimo Award for Distinguished College or University Teaching of Mathematics in 2006.

Engaging Conversationally: A Method for Engaging Students in Their Learning and Examining Instruction

Michael Kiener PhD, CRC
Assistant Professor, Rehabilitation School of Health Professions
Maryville University

Under the principles of the scholarship of teaching and learning and action research this study sought to examine how an instructor created and facilitated engagement in his students. The research was primarily undertaken to further define the middle range theory of mutual engagement. Theoretical sampling was used to analyze approximately 100 pieces of data that included instructor notes, teaching observations, feedback from conference presentations, student assessments, and end of semester student evaluations. Engaging conversationally (EC) emerged as the phenomenon that described the instructor's engagement in the learning process. EC was an ongoing cyclical pattern of inquiry that included preparing, reflecting and modeling. Interconnected in the pattern of inquiry were personality traits, counselor education, and teaching philosophy.

Determining optimal conditions to create and facilitate student engagement is a question basic to education. Examining educational research under the terms classroom community (Hirschy & Wilson, 2002; McKinney, McKinney, Franiuk, et al., 2006; Rovai, 2001), active and dynamic learning strategies (Ahuna & Tinnesz, 2006; Tinnesz, Ahuna, & Kiener, 2006), advisory working alliance (Schlosser & Gelso, 2005; Schlosser & Gelso, 2001), cognitive development (Schrader, 2004), and reflective practice (Koch & Arhar, 2002; Koch, Arhar, & Wells, 2000), one will find a common theme; engagement in learning has beneficial outcomes. Broadly conceptualized, student engagement can include factors that increase learning such as teaching and learning styles, interactions between students and students and instructors, student ability to internalize learning processes, matching student cognitive development, and student ability to become a life long learner. Simply, engagement can be seen as the processes the student and instructor undertake to maximize understanding.

Perhaps conceptualizing engagement as an outcome of the scholarship of teaching and learning will provide its greatest value. Over the past fifteen years, increased attention has been placed on expanding scholarship to focus more completely on all aspects of academia. The scholarship of teaching and learning encourages teachers to make their practice public and to question their practice. Huber and Hutchings (2005) stated the scholarship of teaching and learning allows instructors to research "how best to engage students in learning that matters, and how to help them put pieces together to find meaning in their college careers" (p. 2). When instructors research engagement in their classrooms, not only can they validate what works best for their students, but they also model how to think critically about their practice and make changes based on their observations.

The scholarship of teaching and learning encourages teachers to make their practice public and to question their practice.

Although engagement has been studied from multiple perspectives, there is a further need to investigate how instructors facilitate engagement. Equally important is researching the process of systematically studying teaching to promote engagement and professional development (Grushka, McLeod, & Reynolds, 2005; Kraft, 2002; Magnuson & Norem, 2002). One can argue that systematically studying one's teaching implicitly involves instructor engagement. It is feasible to believe that a critical analysis of teaching and engagement would lead to a better understanding of teaching and learning. Moreover, Kiener (2007) called for the need to further examine engagement as a pedagogical tool and the impact that systematically studying teaching has on instructors.

One method to address these questions is with action research. Action research is a method of inquiry specifically designed to involve teachers in their educational decisions to improve practice (Corey, 1952). The use of action research to investigate one's teaching is not new and has found prevalence in teacher education. Action research can be thought of as a meta-methodology that corresponds well with the principles of qualitative research—studying phenomenon in the context in which it occurs (Heppner, Kivlighan, & Wampold, 1999). Action research allows teachers to investigate issues that directly impact their practice and make decisions based on their findings (Llorens, 1994).

It is plausible to believe from a systematic investigation of teaching that a deeper understanding of how to facilitate engagement as a pedagogical tool can be revealed.

It is plausible to believe from a systematic investigation of teaching that a deeper understanding of how to facilitate engagement as a pedagogical tool can be revealed. The overall purpose of this research was to make teaching more explicit and open to critique by investigating how an instructor facilitated a classroom atmosphere of engagement in learning and the use of engagement as a pedagogical tool. Secondarily, this research was conducted to gain a deeper understanding of a grounded theory study that found mutual engagement as a core category of student learning (Kiener, 2007). The specific research questions were: (1) how can an instructor facilitate and sustain an atmosphere of engagement; and (2) how can engagement benefit pedagogical development?

Methodology

A qualitative approach to data collection and analysis was chosen due to its applicability in answering the research questions and its ability to gain a deeper understanding of the phenomenon of engagement. The research was primarily undertaken to further understand engagement; therefore, theoretical sampling, as described by Strauss and Corbin (1998) and Glaser (1978) was used as the primary sampling technique used to collect data. The purpose of theoretical sampling is to further define a core category (the term used to describe the main phenomena that emerged from the data) and to interconnect it to minor categories by asking critical questions of the data. Previous data is reanalyzed and future data is collected based on questions asked of the data (Jezewski, 1995). The end result is a more developed theory (middle range, substantive, or formal). In addition, a constant comparison method of data analysis was used, also described by Strauss and Corbin (1998) and Glaser (1978). Through this process, collected data were constantly being compared to recently collected data to develop categories and their properties and dimensions. Properties of a category can be defined as "the general or specific characteristics or attributes of a category"; whereas, "dimensions represent the location of a property along a continuum or range" (Strauss & Corbin, 1998, p. 117). What results is a core category that emerges from the data that captures the experiences of the participants.

Data and Participants

There were approximately 100 pieces of data collected and analyzed throughout the semester that included instructor planning and process notes focusing on each of his classes taught, written observations of his teaching, feedback from conference presentations, student narratives, and end of semester student evaluations. The study was presented at two conferences, reviewed by two action research and qualitative researchers, and employed member checking to ensure triangulation of the data.

Due to the principles of action research, the main participant of the study was the instructor. The instructor studied all three of his classes being taught during

the research process. The classes included a foundation, internship, and counseling theory course. Class size ranged from 5-15 students; there were 30 total students, 24 of them were different and 23 agreed to participate. In addition to varying in content and size, the courses were at the beginning and end of the curriculum. Furthermore, faculty in the author's program and the Dean were invited to describe what engagement looks like to them and what they do to engage their students. One faculty member and the Dean agreed to participate. All of the participants added a unique perspective and contributed to a deeper understanding of the research question. Several times throughout the study, the participants were sampled to gain their perspective of the research questions. Sample questions asked of the participants included: (1) What does engagement in learning look like to them; (2) how are they actively engaged in their learning; and (3) what is the instructor's and the student's role in learning.

Findings

A preliminary grounded theory study found mutual engagement and comfortability in the learning process core categories and conditions in which learning occurred (Kiener, 2007). The current study continued to examine the phenomenon of engagement in the learning process and was conducted to further define its relevance and applicability as a middle range theory. Theoretical sampling of the data found engaging conversationally (EC) as the phenomenon that described the instructor's engagement in the learning process.

Theoretical sampling of the data found engaging conversationally (EC) as the phenomenon that described the instructor's engagement in the learning process.

Engaging Conversationally

Engaging conversationally was achieved through balance. Balance with pace of speech, discussions with the class, structure of class (lecture, video, learning performances, guest speakers, etc), physical movement, and ambiguity of class interaction (allowing for student disclosure while staying connected to the entire class). Four written observations illustrate engaging conversationally. The instructor "responded well to the questions and comments raised by the students while managing to keep the discussion focused on the original topic."; "Pacing was comfortable. Not too slow nor too fast. Comfortable enough to take questions in the middle and not bothered by them. Treated audience like 'old friends' who were interested." (faculty comments; conference evaluations); "Meeting and accepting the students where they are at. Believing the group has resources within to address the developmental tasks they face to mature as counselors."; "The philosophy of teaching: very informative, stimulating, humor, respect, thorough explanation of material." (student comments). As demonstrated from the data, EC was a balance of the instructor's teaching style. The specific characteristics of EC remain unclear.

Further examination of EC revealed observable traits of preparing, reflecting, and modeling the teaching process. Preparing included studying and implementing pedagogical frameworks and the use of course management tools (WebCT). For example, the Teaching for Understanding framework (a pedagogical framework by Harvard's Project Zero) of generative topics, understanding goals, performances of understanding, and ongoing assessment heavily influence the author's teaching (Blythe & Associates, 1998). Preparing for a class with pedagogy in mind provides a foundation and rationale and allows instructors to assess student understanding (instructor planning notes). Course management tools provide a means to stay organized and connected with students outside of class. Examples of preparing, from the data, included posting resources on WebCT and making connections with the material to multiple courses. The following quote from a

faculty member accurately captured one aspect of preparing when asked how to engage students:

> "I provide a written statement to my students at the beginning of each semester, the statement provides what I expect of students and what they can expect of me. I seek as many outside resources as possible, stay involved in the profession, challenge my thinking through dialogue with others, and study" (B. Parker, personal communication, October 24, 2006).

It is feasible to believe that one aspect of student engagement is actively and systematically preparing for instruction; however, it is also feasible to believe that more is needed to optimally create and sustain meaningful student engagement.

The second component of EC was reflecting. Reflecting was being thoughtful and critical about teaching and seeking feedback from peers and students. The clearest examples of reflection were the author's weekly class journals. Typical reflection topics included how the class was forming as a group, individual and group assessment of their learning, and material to discuss during the next class. An instructor's comment accurately captured reflecting. "I always review and update my objectives, and attempt to visit my 'Gestalt' or schema of where my content fits into the professional program" (C. Gulas, personal communication, October 19, 2006). Reflecting consisted of tracking where students were, currently are, and where they are going while adjusting the curriculum to meet their needs (instructor planning notes). Preparing and reflecting emerged as the beginning and end of EC, whereas modeling was the component that connected EC together.

Modeling comprised of teaching students to become meta-cognitive and demonstrating dynamic learning strategies (pacing yourself, being curious, being enthusiastic, and embracing the learning process) to enhance how they learn (Tinnesz et al., 2006). For example, the author constantly asked the students to think about their learning, what they were having difficulty with, and how they were connecting what they were learning to other aspects of their life. Moreover, modeling was demonstrating appropriate interactions in class and providing a safe environment to share ideas. Quotes from the student evaluations accurately illustrated modeling. "I think some strengths of this course are that the instructor really cares about our learning;" "The collaboration and engagement of our class;" "The class environment was not too threatening. The professor was approachable;" and "The classroom felt safe to talk in." Modeling was putting preparation and reflection into practice and completing the process of systematically investigating the teaching process.

Interconnected with preparing, reflecting, and modeling were aspects of EC that were not as easily observable and included personality traits, counselor training, and teaching philosophy.

Interconnected with preparing, reflecting, and modeling were aspects of EC that were not as easily observable and included personality traits, counselor training, and teaching philosophy. For example, personality traits influenced the style of instruction and student interaction. Counselor training emphasized a value in Carl Rogers (1951) and the common factors (Hubble, Duncan, & Miller, 1999) that produced a supportive, nonjudgmental atmosphere and a belief in the strengths of the students. The instructor's teaching philosophy provided a belief that student aptitude is time needed to learn and master a task rather than a relative constant trait of a person's possible achievement. The balance of preparing, reflecting, and modeling together with personality, counselor training, and teaching philosophy formed the essence of engaging conversationally. Moreover EC adds to the middle range theory of mutual engagement (Kiener, 2007) by gaining a deeper understanding of the instructor's role in facilitating engagement in the learning process.

Engaging Conversationally as a Pedagogical Tool

Throughout the research process, the principles of action research continually reoccurred in the data at both a macro and micro level. At a macro level the research was conducted with the principles of action research and the scholarship of teaching and learning; an issue/concern to be investigated, plan of action, implementation of the plan, outcome evaluation, and, if necessary, a new plan (Stringer, 2007). At a slightly smaller level, a cyclical pattern emerged as a major component of EC; preparing, reflecting, and modeling by the instructor. Finally at the micro level, the pattern of inquiry was evident in the ongoing assessment of each student. A pattern of inquiry tracked and focused on how students were asking questions of content and thinking about how material was being connected. For example, written and oral assessments were evaluated against course objectives and future assessments were developed based on the progression of the students.

It is from the emergence and recognition of EC as an ongoing cyclical pattern of inquiry that establishes EC as a pedagogical tool; an ongoing pattern of inquiry that includes preparation, reflection, and modeling.

It is from the emergence and recognition of EC as an ongoing cyclical pattern of inquiry that establishes EC as a pedagogical tool; an ongoing pattern of inquiry that includes preparation, reflection, and modeling. Systematically employing EC can be seen as one method that can be used by the instructor to assess teaching and student understanding. It is plausible to believe that most instructors reflect on instruction; however, it is also plausible to believe that most instructors could benefit from a more systematic procedure. As previously stated, action research provides a method to determine an issue, collect and analyze data, and implement findings. Less formal methods of reflection include colleagues observing the teaching process and asking students what went well and not well. Student evaluations are possibly the most common form of feedback and can also be the most biased. Students can give appropriate feedback but also provide skewed accounts if disgruntled. Collecting multiple sources of data can reveal a more accurate reflection of teaching. EC emerged empirically from the data as an ongoing systematic cyclical pattern that emphasized inquiry and resulted in a richer understanding of the teaching and learning process.

Discussion

Analysis of the data revealed EC as an ongoing cyclical pattern of inquiry that included preparing, reflecting, and modeling. Interconnected in the pattern of inquiry were personality traits, counselor education, and teaching philosophy. Engaging conversationally emerged as one method to better understand how to facilitate and sustain an atmosphere of engagement in learning, while the systematic nature of EC benefited pedagogical design and student assessment. Although a deeper understanding of engagement was achieved, the research raised further questions.

Engaging Conversationally and Mutual Engagement

A grounded theory analysis of a rehabilitation counseling practicum class revealed mutual engagement and comfortability as conditions that promoted learning (Kiener, 2007). That analysis primarily focused on students and their ability to think about and develop learning. EC integrates into the theory by adding valuable insight on the instructor's role in facilitating and sustaining engagement in the learning process. EC can provide a method to systematically reflect and improve one's teaching. In addition, EC presents a means for assessing student progress. As a whole, mutual engagement and engaging conversationally provides a lens to

examine how students and instructors engage in the learning process with emphasis on group dynamics, cognitive and affective development, and systematic inquiry.

From a pedagogical perspective, EC provides a process for continued analysis at a micro and macro level. At the micro level, preparing, reflecting, and modeling for each class enables instruction to be focused on individuals and the class as a whole; and it embraces the fluidity needed to make adjustments. At the macro level, EC allows for reflection of past courses, preparation for the future, and sets the stage for modeling systematic reflection. Continued research on engagement will only increase its applicability as a substantive theory and its usefulness as a pedagogical tool.

Implications for a Broader Audience

The relevancy of engaging conversationally and the scholarship of teaching and learning are applicable in all disciplines and can be easily implemented with action research. Inherent in engaging conversationally, scholarship of teaching and learning, and action research are principles to improve one's work. Perhaps the greatest benefit is in the flexibility of action research. Action research can be used to examine an instructor's questioning technique, curriculum review, and or to develop a middle range theory of how students learn. All organizations, as well as individuals coming in contact with these professionals, would benefit from this approach.

Inherent in engaging conversationally, scholarship of teaching and learning, and action research are principles to improve one's work.

EC can be applied to other disciplines by illustrating the specific application of knowledge required to become a professional. For example, EC can provide a method to understand how one thinks and acts in a certain profession. All disciplines would benefit from students learning what it means to be an effective practitioner. EC could be used to study and develop curriculum that creates effective practitioners. Adding the principles of the scholarship of teaching and learning to EC makes the work public and open for critique, improvement, and adoption across disciplines.

Ethical Considerations and Limitations of the Study

As educators, the ability to be self-reflective practitioners is crucial to professional and student development (Kraft, 2002). Perhaps more important is the ability to teach and model how to critique and improve one's practice. Kraft recommended a greater awareness for instructors to study their teaching and question belief systems that guide their practice. Paralleling this recommendation are the principles and values of the scholarship of teaching and learning that arguably rest on the capabilities of teachers to recognize and embrace the mission of systematically studying their teaching. Accomplishing these principles requires instructors to rigorously research their teaching as they do in their professional domains and to go public with their results for others to critique and build upon (Huber & Hutchings, 2005). It is feasible to believe that teachers who embrace this philosophy are responding ethically to the call of beneficence.

Conclusion

Although there are many benefits to this study, it is also important to point out its limitations. Perhaps the greatest limitation is the theory's developmental stage. Further studies are needed to move the theory past middle range to substantive and then to formal. The first step in this progression is to examine mutual engagement and engaging conversationally in courses that differ in content and size. It is also important to note that this theory is only one way to engage

students in their learning and not the only way. A strict adherence to this theory would contradict the principles of action research and restrict critical inquiry of one's teaching. Additional insight would be gained from other researchers implementing engagement into their course design and documenting their results. It is feasible to believe that systematic inquiry is the greatest strength of this theory.

Engaging conversationally emerged out of the need to investigate how an instructor facilitated and sustained an atmosphere of engagement in learning. What was revealed was a systematic process of inquiry that included personality traits, counselor education, and teaching philosophy. While the recognition of engagement as a positive impact on learning is not new and may even seem novel, the development of engagement as a pedagogical tool and as a systematic procedure for inquiry is paramount and warrants additional investigation. Continued use and investigation of EC will only refine and enhance its utility across disciplines and provide a richer understanding of the teaching and learning process.

References

Ahuna, K. H. & Tinnesz, C.G. (2006). *Methods of inquiry: Applied critical thinking (2nd ed)*. Dubuque, Iowa:Kendall/Hunt.

Blythe, T. & Associates. (1998). *The teaching for understanding guide*. San Francisco: Jossey-Bass.

Corey, S. M. (1952). Action research by teachers and the population sampling problem. *Journal of Educational Psychology, 42*(6), 331-338.

Glaser, B.G. (1978). *Theoretical sensitivity*. Mill Valley, California: The Sociology Press.

Grushka, K., McLeod, J.H., & Reynolds, R. (2005). Reflecting upon reflection: theory and practice in one Australian university teacher education program. *Reflective Practice, 6*(2), 239-246.

Heppner, P. P., Kivlighan, D.M., & Wampold, B.E. (1999). *Research design in counseling (2nd ed)*. Belmont, CA: Brooks/Cole Wadsworth.

Hirschy, A. S., & Wilson, M.E. (2002). The sociology of the classroom and its influence on student learning. *Peabody Journal of Education, 77*(3), 85-100.

Hubble, M.A., Duncan, B.L., & Miller, S.D. (Eds.). (1999). *The heart and soul of change: What works in therapy.* Washington, DC: American Psychological Association.

Huber, M. & Hutchings, P. (2005). *The advancement of learning building the teaching commons.* San Francisco, California: Jossey-Bass.

Llorens, M. (1994). Action research: Are teachers finding their voice?. *The Elementary School Journal, 1*, 3-10.

Jezewski, M. A. (1995). Evolution of a grounded theory: Conflict resolution through culture brokering. *Advances in Nursing Science, 17*(3), 14-30.

Kiener, M. S. (2007). Scholarship of teaching in rehabilitation counseling practicum. *Rehabilitation Education*, *21,* 169-178.

Koch, L. C. & Arhar, J.M. (2002). Action research in rehabilitation counseling intern supervision. *Rehabilitation Education, 16*(2), 165-177.

Koch, L. C., Arhar, J.M., & Wells, L.M. (2000). Educating rehabilitation counseling students in reflective practice. *Rehabilitation Education, 14*(3), 255-268.

Kraft, N. P. (2002). Teacher research as a way to engage in critical reflection: A case study. *Reflective Practice, 3*(2), 175-189.

Magnuson, S. & Norem, K. (2002). Reflective counselor education and supervision: An epistemological declaration. *Reflective Practice, 3*(2), 167-173.

McKinney,J. P., McKinney, K.G., Franiuk, R., & Schweitzer, J. (2006). The college classroom as a community impact on student attitudes and learning. *College Teaching, 54*(3), 281-284.

Rogers, C. R. (1951). *Client-centered therapy: Its current practice, implications, and theory.* Boston: Houghton Mifflin.

Rovai, A. P. (2001). Building classroom community at a distance: A case study. *Educational Technology, Research and Development, 49*(4), 33-48.

Schlosser, L. Z. & Gelso, C.J. (2005). The advisory working alliance inventory—advisor version: Scale development and validation. *Journal of Counseling Psychology, 52*(4), 650-654.

Schlosser, L. Z. & Gelso, C.J. (2001). Measuring the working alliance in advisor-advisee relationships in graduate school. *Journal of Counseling Psychology, 48*(2), 157-167.

Schrader, D. E. (2004). Intellectual safety, moral atmosphere and epistemology in college classrooms. *Journal of Adult Development, 11*(2), 87-101.

Strauss, A. & Corbin, J. (1998). *Basics of qualitative research techniques and procedures for developing grounded theory (2nd ed.).* Thousand Oaks: Sage Publications.

Stringer, E.T. (2007). *Action research (3rd ed.)*. Los Angeles: Sage Publications.

Tinnesz, C. G., Ahuna, K. H., & Author, M. (2006). Toward college success: Internalizing active and dynamic strategies. *College Teaching, 54*(4), 302-306.

Michael Kiener, PhD, is an assistant professor at Maryville University. He is on the advisory council of Maryville University's Center for Teaching and Learning focusing on action research and the scholarship of teaching and learning. He has published articles on career decision making, learning strategies, counseling pedagogy, and action research.

Exploring the Pedagogical Effectiveness of Clickers

Robin K. Morgan, PhD
Professor, Department of Psychology
Indiana University Southeast

Clickers, electronic response systems, are widely popular in college classrooms and proponents have argued clickers can increase student engagement, active learning, and, perhaps most importantly, student comprehension. Determining whether the effectiveness of clickers justified their purchase seemed warranted. A campus-wide project was developed to address this question. Five university instructors adopted clickers in one of their introductory courses (psychology, speech, accounting, and education) while teaching a second, control course. Contrary to expectation, attrition was higher and grades were lower in the clicker courses, although these differences were not statistically significant.

Over the past 20 years, the technology used on university campuses has expanded from overhead projectors and videotapes to comprehensive multi-media presentations involving laptops, LCD projectors, online testing, and personal response systems or clickers (MacGeorge, et al., 2008; Stowell & Nelson, 2007). Researchers report that instructors may use the novel technological capabilities of clickers to enhance questioning and feedback (Trees & Jackson, 2007); to motivate and monitor the participation of each of their students (Stowell & Nelson, 2007); to foster discussions of important concepts (Brickman, 2006); and to energize and activate students' thinking (Collins, Moore, & Shaw-Kokot, 2007). Bransford and colleagues cite clicker technology and the related pedagogy as one of the most promising methods for transforming classrooms to be more learner-, knowledge-, assessment-, and community-centered (Bransford, Brophy, & Williams, 2000).

In addition, students appear to favor electronic response systems over traditional lecture formats. Judson and Sawada (2002), in a review of the literature on clicker use, noted that students find clickers to be helpful in comprehension, and cited some (although limited) evidence for benefits in academic achievement. In a study of clicker use in biology classes, Brewer (2004) found that the use of clickers allowed instructors to receive feedback that helped them appropriately set the pace of the course. Clickers can also enhance reflection and understanding when used with small group discussion (Brewer, 2004; Brickman, 2006). Likewise, Draper and Brown (2004), in a multi-disciplinary study of clicker use, note several advantages of clickers (lectures are more fun, anonymity allows students to answer without the risk of embarrassment, students can check their understanding of the material).

However, students and instructors both have cited some possible disadvantages of clicker use (clickers can distract from learning, focus seems to be on technology rather than the material, questions are not very helpful). Carnaghan and Webb (2007), for example, found that student engagement declined when clickers were introduced into their courses. Although students reported enjoying the use of the clickers, this satisfaction did not translate into increased satisfaction with the course. Additionally, strong evidence for increases in test scores and/or course grades associated with the use of clickers is minimal as yet (Draper & Brown, 2004; Judson & Sawada, 2002). The research to date seems to suggest it is how the instructor makes use of the clickers, rather than the simple adoption of clickers themselves, that determines their pedagogical effectiveness.

The research to date seems to suggest it is how the instructor makes use of the clickers, rather than the simple adoption of clickers themselves, that determines their pedagogical effectiveness.

Reviewing the literature on clickers suggested that the most positive results of clickers were posited to occur in relatively large classes where one-on-one interaction between students and professors may not be feasible. Draper and Brown

(2004), for example, assessed the student response to clickers in fifteen classes ranging in size from 18 students to close to 500 students. They argued that clickers allowed increased interactivity during lectures and that even students in the smallest classes appreciated the increased anonymity afforded by the use of clickers. More recently, Morling, McAuliffe, Cohen and DiLorenzo (2008) assessed the efficacy of clickers in four large sections of introductory psychology, with approximately 350 students per section. These researchers reported that clickers led to a small, positive effect on exam scores. However, students in the clicker classes in this study did not report feeling any more engaged during class than did students in the non-clicker classes.

As these results have become more well-known, the faculty on our campus began to consider using clickers in their classes. Our teaching and learning center began to receive requests to provide workshops on the use of clickers and, individually, several faculty members began contacting publishers about the possibility of adopting clickers. It appeared that we were on the 'fast track' to adopting this new technology.

Although familiar with the rationale behind the scholarship of teaching and learning, many faculty on our campus were less comfortable in attempting to assess whether clickers increased student learning.

The primary mission of our university is teaching and, as a result, we have maintained an average class size of approximately 25 students. Prior to asking students to purchase clickers for their classes, we wanted to determine if this technology would be pedagogically effective, given our small class size. Although familiar with the rationale behind the scholarship of teaching and learning, many faculty on our campus were less comfortable in attempting to assess whether clickers increased student learning. Therefore, with the help of our teaching and learning center, five introductory courses were selected to introduce and evaluate the use of clickers. The goal of this research was to identify whether the addition of clickers would improve retention rates, grades, and student satisfaction. Five instructors each taught two sections of their respective introductory course, one section using a standard lecture format, the other incorporating personal response systems. The course objectives, materials, and grading practices were identical for each section the instructor taught. It was expected that the sections using clickers would have lower attrition levels, higher grades, and greater satisfaction with technology use.

Method

Participants

Five full-time residential faculty members (one full professor, two associate professors, one assistant professor, and one senior lecturer) were the instructors for the selected courses. Students in ten sections of introductory courses (four sections of psychology, two sections of accounting, two sections of education, and two sections of speech) agreed to participate in this study, which had been approved by the university's Institutional Review Board (IRB). No course credit or other benefits were provided for participation. Enrollment in both the control and clicker classes varied from approximately 20 students per course to approximately 50 students per course, with the average enrollment being 30 students for the control classes and 29.2 students for the clicker classes. Overall, 146 students participated in the clicker classes and 150 students in the control classes. Despite this across-instructor disparity, each instructor's clicker and control conditions were quite similar (see Table 1). Mean age and gender breakdown were fairly consistent and representative of the campus. Overall, 70% of students were in their first year of college, 18% were sophomores, and 2% were juniors. No differences in class rank were found

between control and clicker classes. In addition, no differences in high school rank or SAT scores were found between the classes.

Table 1: Demographics of Students in Control and Clicker Classes

	Mean Age	Percent Females	Percent Males
Clicker	21.7	66%	34%
Control	21.3	73%	27%

Materials

Instructors used their standard lecture format for both the clicker and the control classes. All assignments, exams, readings, and material covered were as similar as possible in both the clicker and the control condition for each instructor. For the clicker classes, students were asked to purchase from the university bookstore the university supported clicker, the eInstruction CPS radio frequency electronic response remote. This remote allows students to enter either numbers or letters for multiple-choice, true-false, or instructor-created questions. Each instructor created his or her own questions for use with the clickers. Instructors attended a week-long training session sponsored by the campus teaching and learning center, during which they were taught how to use the clickers and practiced creating questions that would focus on building conceptual understanding and opportunities for discussion, rather than simply reflecting memorized items. In addition, instructors were informed of the design methodology being used to evaluate clickers in the present study.

At the end of the semester, all students completed a course survey measuring study habits and attitudes toward the class. Questions included items such as how much time students studied outside of class, how much time students spent preparing for the class, whether students actively participated in class, and whether the instructor's use of new technology promoted learning in the course or created anxiety for the student. Each of the five instructors completed a similar questionnaire to assess how much time they spent preparing for the class and their attitudes.

Design and Procedure

All five faculty members signed informed consent statements allowing research data from their courses to be used. For each of the five instructors, one section of their introductory course was assigned to the clicker condition, and the other was assigned to the control condition. All other elements of the course were held constant including testing, assignments, readings, and material covered. Clickers were used during class sessions. Questions varied from opinion questions to reading checks to questions designed to create discussion or check students' conceptual understanding of topics being covered. All questions asked were formative; that is, no question was used as a summative, graded part of the class. Students responded using the clickers and then the material was reviewed as needed. At the end of the semester, all students were asked to complete a course survey designed to measure study habits and attitudes toward the class. All students were informed of the nature of the study and signed informed consent forms.

Results

The primary dependent variables in this study were student attrition and final class grades. Additionally, faculty and student comments about the class, collected with the end-of-course survey for the students, were also assessed. These comments were submitted on standardized end-of-course evaluation forms.

In the clicker classes, 24.66% of students failed to complete the course, compared to 15.33% of students who failed to complete the control classes (see Table 2). Chi square analysis revealed that this difference was not significant. Grade distributions also varied between the clicker and control classes, although Chi square analysis revealed that these differences were not significant. As can be seen in Table 3, students in the clicker classes earned more Cs and Fs than students in the control classes. Likewise, students in the control classes earned more As and Bs. The percentage of students earning Ds was identical in both the control and clicker classes.

Table 2: Attrition in Control and Clicker Classes

	Enrollment	Completion	Attrition Rate
Clicker	146	110	24.66%
Control	150	127	15.33%

Table 3: Percentage of Final Grades in Control and Clicker Classes

	A	B	C	D	F
Clicker	30%	26%	25%	8%	11%
Control	35%	28%	21%	8%	8%

Questions from the end-of-course evaluations did not reveal any apparent differences between the clicker and control classes. Many students also provided written comments about the clicker class on the end-of-the course evaluations with 70% of those students responding reporting that they enjoyed using the clickers. In addition, 42% of students reported that they enjoyed the anonymity of the clickers. The remaining students were less positive, reporting that they did not like having to pay for the clickers (65%) or that the clickers seemed to interfere with discussion in the classroom (74%).

Faculty comments revealed both positive and negative aspects of the use of clickers. On the positive side, all faculty reported that they enjoyed using the clickers and believed that students enjoyed the clickers as well. Two negative comments were reported. First, the clickers required more time both in preparing for the class and in conducting the class. When teaching clicker classes, faculty reported spending an average of 2.6 hours more per week preparing for class than when they taught the control classes. Within the class, three of the five faculty reported they had difficulty covering the same material as in the control classes due to the increased time required for students to use their clickers. A second negative comment, from three of the five instructors, concerned what they labeled the 'camaraderie of dissent.' According to these three instructors, clickers allowed students to see how many of them did not understand the material, leading to their rationalization that the material the professor was covering was simply too hard.

Discussion

In the present study, no significant differences were found in attrition or grades between the clicker and control classes. Attrition rates were higher in the clicker classes, but this difference was not significant. The reason for this is unknown, because students who withdrew obviously did not complete the end-of-course evaluation. Perhaps these students left because they disliked having to purchase or use the clickers. Neither were there significant differences in grade distributions across the two types of classes. This is of concern, as one

In the present study, no significant differences were found in attrition or grades between the clicker and control classes.

argument for asking students to purchase clickers is that their use is thought to improve student learning. This did not occur in the present study.

Several factors in the present study may have led to these results and may provide the basis for recommendations on the best use of clicker technology. First, in many universities, clickers are being used in large introductory sections of classes. In these classes, faculty interaction with students may be limited due to the sheer number of students and the necessity for the professor to cover a large amount of material. In such classes, students may be able to skip class or attend but never say a word, so the use of clickers guarantee at least some level of participation. In smaller classes, such as the ones in the present study, students are more likely to already have significant interaction with the professors. In fact, several students in the present study reported that they disliked the clickers because they interfered with the type of interaction they were accustomed to with their professors. These results are consistent with those of Carnaghan and Webb (2007), who also found a decline in student engagement with the introduction of clickers. As a result, one recommendation might be to only use clickers in large classes where more personal means of interaction might be problematic.

A second issue concerns the familiarity of the faculty member with the use of clickers and the manner in which the faculty member incorporates clickers into the classroom. The first time a faculty member uses a new form of technology or introduces any new component into a course, there may be awkwardness leading to increased problems and less chance of success (Draper & Brown, 2004). In the present study, this was the first time the instructors had utilized clickers in the classroom. It is certainly possible that with continued use, clicker classes would show the expected improvements in learning suggested by the literature. This may not be a strong explanation in the present study, however, because all five instructors went through a clicker training process aimed to both reduce any awkwardness in use, and ensure that questions created for use with the clickers would be best suited for student engagement and learning. In fact, the fifth instructor continued to use the clickers for two additional semesters and continued to collect data. The results in her subsequent classes matched the results during the original semester. Whether faculty using clickers in other locations receive such training prior to using this technology is questionable. To ensure success with clickers, it seems likely that professors need specific training in the use of the technology and in writing appropriate questions for use with the clickers. Questions of most use might be those designed to enhance discussion and those that probe for more conceptual or applied understanding on the part of students. For example, research has noted the probable benefits of clickers when used to facilitate students' "interactive engagement" with the material, the instructor, and each other (Brewer, 2004; Draper & Brown, 2004; Judson & Sawada, 2002).

Finally, in the present study, clickers were only used for formative purposes. No grades were attached to students' responses to clicker questions. It seems reasonable to expect differences to appear when faculty use formative vs. summative questions. It is possible that if the instructors in the present study had combined formative and summative clicker questions, the students would have valued this aspect of the class more and students in the clicker sections would have performed better in the class. This question would be an interesting one for future research.

Using a cross-campus approach to designing and conducting research on clicker effectiveness allowed for the inclusion of faculty who might never have considered conducting such research on their own.

From a broader perspective, this research led our campus to several decisions. While not prevented from utilizing clickers in their classroom if they so chose, faculty were encouraged to consider the results of the present study and to attend the training provided by the teaching and learning center. Four of the five instructors in the study decided not to use clickers in the future. As mentioned earlier, the fifth instructor continued with the clickers for two additional semesters,

but due to continuing poor results, has now discontinued their use. Using a cross-campus approach to designing and conducting research on clicker effectiveness allowed for the inclusion of faculty who might never have considered conducting such research on their own. In addition, this model has been adopted by our campus for assessing the effectiveness of other forms of pedagogical technology, prior to their widespread introduction across the campus.

References

Bransford, J., Brophy, S., & Williams, S. (2000). When computer technologies meet the learning sciences: Issues and opportunities. *Journal of Applied Developmental Psychology, 21*(1), 59-84.

Brewer, C. A. (2004). Near real-time assessment of student learning and understanding in biology courses. *Bioscience, 54(11),* 1034-1039.

Brickman, P. (2006). The case of the Druid Dracula. *Journal of College Science Teaching, 36(2),* 48-53.

Collins, L.J., Moore, M.E., & Shaw-Kokot, J. (2007). Livening up the classroom: Using audience response systems to promote active learning. *Medical Reference Services Quarterly, 26(1),* 81-88.

Draper, S. W., & Brown, M. I. (2004). Increasing interactivity in lectures using an electronic voting system. *Journal of Computer Assisted Learning*, *20(2)*, 81-94.

Judson, E., & Sawada, D. (2002). Learning from past and present: Electronic response systems in college lecture halls. *Journal of Computers in Mathematics and Science Teaching*, *21(2),* 167-181.

MacGeorge, E., Homan, S., Dunning, J., Elmore, D., Bodie, G., Evans, E., Khichadia, S., Lichti, S., Feng, B., & Geddes, B. (2008). Student evaluation of audience response technology in large lecture classes. *Educational Technology Research & Development, 56(2),* 125-145.

Morling, B., McAuliffe, M, Cohen, L., & DiLorenzo, T.M. (2008). Efficacy of personal response systems ("clickers") in large, introductory psychology classes. *Teaching of Psychology, 35(1),* 45-50.

Stowell, J.R., & Nelson, J.M. (2007). Benefits of electronic audience response systems on student participation, learning, and emotion. *Teaching of Psychology, 34(4),* 253-258.

Trees, A.R., & Jackson, M.H. (2007). The learning environment in clicker classrooms: Student processes of learning and involvement in large university-level courses using student response systems. *Media & Technology, 32(1),* 21-4

Robin Morgan, PhD, has taught at Indiana University Southeast since 1988. She has won numerous teaching awards, served as the founding director of her campus teaching and learning center, and developed the peer review training process for her campus. Her current research examines student stalking of faculty and its impact on teaching.

Reflections on a Decade of Using the Scholarship of Teaching and Learning

Randall E. Osborne, PhD
Professor, Department of Psychology
Texas State University at San Marcos

Paul Kriese, PhD
Associate Professor, College of Humanities and Social Sciences
Indiana University East

Heather Tobey
Student, Department of Psychology
Texas State University at San Marcos

This article explores lessons learned from a decade of teaching an online course on the politics and psychology of hatred using a scholarship of teaching and learning (SoTL) model. The authors illuminate course etiquette and a critical thinking model that incorporates SoTL into the ongoing fabric of the classroom. In addition, discussion centers on utilizing SoTL to satisfy colleagues concerned about "loss of content" in process oriented courses, and how to engage students in an ongoing, ever-changing, dialogue that can lead them to accept a more inclusive world view.

Introduction

Hutchings and Shulman (1999) utilize the following definition for the scholarship of teaching:

> A scholarship of teaching is *not* synonymous with excellent teaching. It requires a kind of "going meta," in which faculty frame and systematically investigate questions related to student learning—the conditions under which it occurs, what it looks like, how to deepen it, and so forth—and do so with an eye not only to improving their own classroom but to advancing practice beyond it (p. 13).

As we worked to develop an Internet-based course on the politics and psychology of hatred, we discovered that the same critical questioning and inquiry process that defines the SoTL process for the teacher can be used as a means by which students could examine their own learning and faculty can assess student work.

As we worked to develop an Internet-based course on the politics and psychology of hatred, we discovered that the same critical questioning and inquiry process that defines the SoTL process for the teacher can be used as a means by which students could examine their own learning and faculty can assess student work. In other words, we believed that the same process of: (1) posing a question, and (2) systematically examining that question through evidence, could become the manner by which students learn, NOT just the process by which we, as faculty, examine what and how they learn. By using what we have learned about SoTL, we were able to set cognitive and affective expectations for the course and to assist students in developing the skills to make progress in implementing the SoTL process. As we begin the next decade of teaching this course, we reflect on lessons learned from these ten years of applying the method and outline how we "train" students to use it.

Our foray into the SoTL arena was both fortuitous and accidental. One author had been building a career in teaching and research centered on issues of institutional racism in the form of government and governmental doctrine (in particular the U.S. Constitution). Another author incorporated an interest in the development, maintenance, and implications of prejudicial attitudes into his

teaching and research in the discipline of psychology. At the root of our work was a fundamental belief that most people could learn to be more inclusive in their worldview. Inclusiveness, for both of us, was defined by the work of Thomas and Butler (2000) as "the practice of emphasizing our uniqueness in promoting the reality that each voice, when valued, respected, and expected to, will provide a positive contribution to the community." The discovery of this root goal in our work led us to one complex question, "how can we develop a purposeful methodology for teaching the critical questioning and evidence examining skills that are necessary to create 'inclusive citizens'?"

As we grappled with this question, we kept returning to a relatively new (at that time) concept in pedagogy, "scholarship of teaching and learning." That was the accidental beginning of our foray into SoTL. It turned out to be fortuitous, however, as neither of us had tenure and had no idea that the course we were about to develop would rankle some of our senior colleagues. As we briefly discuss the decade of work that has now passed under the rubric of SoTL in our course, we will address the following issues:

1) how SoTL assisted us in satisfying our skeptical senior colleagues as to the "integrity" of our process driven course;
2) how SoTL has provided us a framework for addressing the issue of content within a course that changes with each new group of students and each new series of local, state, national, and international events;
3) how we, as faculty, can change with the times as a result of SoTL;
4) how we incorporate SoTL into the affective and cognitive expectations for students in the course;
5) reflections (and some student feedback) as to the degree to which an Internet-based course assists or hinders our goal of utilizing a SoTL procedure in our course; and
6) reflections (and some student feedback) as to the degree to which our different disciplinary backgrounds foster or inhibit a SoTL process in this team-taught course.

History

When we first proposed an interdisciplinary Internet course on the politics and psychology of hatred, we were surprised by the negative reaction of some of our senior colleagues. Questions such as, "how can you assess student learning?", "what *exactly* will students be learning?", and "maybe you should wait until you get tenure to try something like that" were, unfortunately, commonplace. Fortunately, we discovered SoTL as a pedagogy that provided a framework for us to discuss the goals of the course. By focusing on the desired outcomes of SoTL, we were able to satisfy our colleagues that, at a minimum, no harm would be done to students. Once we were committed to using a SoTL model in our course, we began to search for ways to describe that model and the learning outcomes we anticipated because of using it.

By exploring the question and evidence gathering techniques employed by our colleagues in a variety of disciplines (e.g., Streveler, Moskal & Miller, 2003; Wagner, 2005; Walker, 2002), we were able to synthesize what we believed to be a model for SoTL that we would (1) employ in our course, (2) nurture students to employ, and (3) hold students accountable for employing via assignment and course grades. The model and course etiquette we feel is necessary to foster growth and use of the SoTL model in our course is outlined in a later section. For the new faculty member considering integrating SoTL into courses, we highly recommend such a model as a framework for tenure and promotion conversations about one's teaching philosophy and for documenting teaching effectiveness. For a moment, however, let us turn our attention to a recurring question colleagues asked us when we described our desire to create this interdisciplinary exploration of values (e.g., Hall 2003; Morrison, 2001) in our course.

Content vs. Process

The content of the course is actually determined by process. It is determined by student issues, by issues in the world at the time of the course and over its duration. There are general outlines for the course, but these are starting points for discussion. This past semester, issues such as the Jenna, LA event, and the Columbia University racist episode guided our discussion about how hatred is exampled and who is involved. We always have scenarios and exercises about environmental and situational racism and hatred. But events only provide the 'content' for this course. Over the ten years we have taught this course, events have provided us with examples which we then incorporate into the course 'process' and go from there. When we look at our variation of the nuclear fallout shelter (who will die?) exercise, for example, the exercise remains the same, but students assigned to different groups and/or from different semesters make different judgments which affect the direction of the course. As situations occur, then, those events can immediately be placed into the ongoing dialogue of the course and be used to encourage discussion and link content to student lives. The event may take a week or the rest of the semester to discuss and digest.

How We Demonstrate the "Process" of SoTL

Everyone in the class and all events in the world become potential exercises for the class. Since the faculty are always looking for examples to illustrate the course, content-rich situations consistently occur to us. We are process-oriented. Class constantly changes shape and direction. We believe that personal experience is essential 'material' to demonstrate the flow of human behavior exampled in this class. Personal experience of one person often links with personal experience of another. These cross-pollinating events show students that life is a fascinating mélange of human patterns. We are the 'course'; our personal experiences are the 'stuff' of the course. As we interrelate our lives with each other, the course takes on different realities but still has a common core: the assignments which we mutually explore and discuss and the SoTL (questioning and seeking evidence to answer those questions) process we employ and nurture in students. But we cannot have rigid expectations for the course or for any particular student outcomes in the course. We need to be open to where the course leads, having faith that we will end up in a place which educates students on the political and psychological realities of hate in the United States.

As we interrelate our lives with each other, the course takes on different realities but still has a common core: the assignments which we mutually explore and discuss and the SoTL (questioning and seeking evidence to answer those questions) process we employ and nurture in students.

Ten years on, we have not been disappointed about the rich realities which we bring to and that result from the course. We both are active in the lives of our communities and thus bring multiple illustrations which are then used to explore the dynamism of negative political and psychological human behaviors. We also believe that we can progress to a better world because we can explore these issues in the relative safety of a college course. But we must always be aware that our examples are live examples which student can respond to and find in their own lives. The world becomes a living classroom. The classroom becomes a laboratory to discuss and revise these lived experiences. So, outside of some general conditions, truth is constructed and reality developed in such ways as to educate students to be creative consumers in their communities. Their ability to be creative learners is essential in a democracy where civic engagement often loses ground to artfully created but *absolutist* scenarios of human relationships.

Faculty Change with Time

How do we convince students that the world is neither too fragile nor too rigid for them to change? How do we convince students that to be involved in the community is not only essential for the health of a democratic society but actually a fun and useful exercise? How do we convince anyone that the fresh air of exploration and discovery is bracing to the spirit? How do we motivate the discussion, exploration and, yes, failure which lead to retooled successes? The best way that we know is to model these behaviors ourselves! We must indicate that not knowing is a plus and not a negative but that ignorance is to be explored. We must illustrate that observation and analysis of our situation, combined with a healthy respect for our own ability to succeed, will allow us to move ahead. We need to repeat over again that our major obstacle is our own fear of newness, our own belief in our own inability to land on our feet; even if we land in ways that are not always where we wish to be. We need to be our own best friend as well as our own worst enemy.

We as faculty need to be the change agents we tell our students that they need to be. It is our experience that the dynamic "growth" process advocated by a SoTL paradigm (i.e., posing a question about one's knowledge or about another's learning and examining that knowledge or learning through evidence) allows for such change. By focusing more on the process of teaching and learning and less on rigid content, we can create learning environments where positive change is illustrated over and over again as the way to live one's life. We need to create exercises within these classes that repeatedly say that failure is a success not yet discovered as long as we learn from that failure. We need to nurture students' ability to "go where no one has ever gone before" with cheerfulness that denies doubt or failure.

By focusing more on the process of teaching and learning and less on rigid content, we can create learning environments where positive change is illustrated over and over again as the way to live one's life.

The risk of this type of course is in not having the class entirely mapped out before we add students to the mix. We need to ask leading questions but refuse to provide leading responses. We need to challenge the norm when the norm is what students have been rewarded for espousing before. We will, at times, fall flat on our faces. We will, at times, be dead wrong. But, as we tell the students, being wrong is only a "problem" if we are searching for the correct answer. Still, students cannot learn to be creative and to succeed if they do not have the tools for success. One of the most important of these tools is the knowledge that failure is often necessary *before* success. They need to build up inner resources to prevail over challenges. Developing many pathways to a conclusion is essential to this task. Courses based on process laden experiences allow students to take these steps.

Incorporating SoTL into the Course

When one says, "I believe in the use of the scholarship of teaching and learning in my courses," it is easy to value this concept; but how, exactly, does one accomplish that use? What is meant by the SoTL process? As we mentioned in the introduction, we discovered SoTL quite by accident. Our colleagues demanded to know how we intended to teach a value-based course with content that would shift with each new crop of students or each highly publicized example of hate at the state, local, national and/or international level. Hence we searched for a framework to put our desires into words; SoTL provided that framework. As we began to articulate these goals within a SoTL framework, we discovered a process for partnering with our students that has served as the foundation of our course for a decade. Before expecting students to "pose questions to themselves about their biases and values" – a critical component of the SoTL process, in our minds – we

felt it necessary to lay ground rules for classroom behavior. Although we will briefly discuss the etiquette and SoTL process we developed here, we have included in the appendices to this paper tables that spell these out completely in case readers would find it useful to duplicate and use these.

Given the sensitive nature of the focus of the course – hatred – we felt obligated to outline a model of behavior for the classroom as students engaged in the questioning and evidence gathering process of SoTL. The fact that this course would be (and always has been) taught on the Internet made this even more necessary in our opinion. What follows is an abbreviated form of the course etiquette that we discuss in our syllabus:

1) respect for others (their viewpoints, their values, their beliefs);
2) the right to disagree but requires sensitivity to the viewpoints of others;
3) taking responsibility for being involved in developing the issues and topics relevant to this course;
4) active participation in all elements of the course;
5) continual feedback to the instructors about the course, course assignments, and individual viewpoints;
6) a commitment to the mutual exchange of ideas. This means we will not isolate definitive "answers" to the issues we raise, but we will actively explore and respect the multiple sides to those issues; and
7) a responsibility to "police" ourselves. We are attempting to develop a community and this requires trust. In order to develop trust, we must know that we can share our ideas and not be "attacked." This also requires that we allow other class members the same trust and freedom we expect.

But standards for behavior are not the primary focus in this course. They are a means to an end. The end we desire, of course, is an honest exploration of values that will result in a more inclusive worldview in the students. But values are emotional. By putting etiquette first, we believe we create an environment in which admitting that one is provincial, for example, is okay. What is not okay is to be so and not explore it. Thus, the SoTL process follows from the etiquette. Again, a fuller description of this process is presented in table form in the appendix for others to duplicate if desired. Briefly, the SoTL process we employ suggests that student work in addressing a course issue should require the exploration of evidence for the knowledge, opinions, and/or values that are being expressed. Specifically, we expect students to engage in four levels of analysis. These levels are:

1) Recitation – state known facts or opinions. A critical component of this step is to acknowledge what aspect(s) of what is being stated is factual and what is based on opinion.
2) Exploration – analyze the roots of those opinions or facts. This step requires digging below the surface of what is believed or known and working to discover the elements that have combined to result in that fact or that opinion.
3) Understanding – involves an awareness of other views and a comprehension of the difference(s) between one's own opinion (and the facts or other opinions upon which that opinion is based) and the opinions of others.
4) Appreciation – means a full awareness of the differences between our views and opinions and those of others. To truly appreciate differences, we must be aware of the nature of those differences. The active dialogue undertaken in the third step (understanding) should lead to an analysis of the opinion as recited by the other. The result should be a complete awareness of the similarities and differences between our own opinions (and the roots of those opinions) and those of the "other."

This model is used to assess student work. For example, students receive a feedback sheet about a posted assignment that includes a "score" for each level of

the model. A copy of a sample feedback sheet is included in the Appendix. We perceive this model as a rubric that can be used to promote student engagement in the scholarship of learning and to complement our use of the model in the design of assignments and assessments to promote the scholarship of teaching.

Teaching the Course on the Internet

Perhaps one of the most surprising things about teaching this course on the Internet has been colleagues' perceptions about such an enterprise. Suffice it to say that *many* of our colleagues do not believe that such a course should be taught on the Internet. (By "such a course" we mean one that delves into sensitive topic issues and one that requires the personal exploration of one's values.) Our experience, however, has been quite the opposite. Recent work suggests Internet-based assignments can foster significant advancements in the critical questioning and evidence examining processes valued by those who employ SoTL (e.g., Osborne, Baughn & Kriese, 2007). Because this piece is meant, however, to be primarily reflective, we provide a sample of student-posted comments to illustrate that a well-designed Internet course can, indeed, foster the development of the SoTL process.

> "It is a very interesting hatred course due to the fact that it is online. I think that this gives people more freedom to speak about what is on their minds and how they feel about it. I don't have a problem expressing how I feel about a topic where I might in class be more reserved." KS
>
> "…taking it online helps, because you can voice your opinion honestly without repercussions." JC
>
> "…and because it is online there's an extreme comfort level. Not sitting in a classroom removes the fear of being openly ridiculed to your face for your opinions and thoughts and gives us a forum to openly discuss controversial topics that would otherwise be extremely uncomfortable." JG

SoTL in a Cross-Disciplinary Course

No one can see in all directions; no one has all of the best ways to proceed. Combining two strong positions makes each position stronger yet. A community of people provides a community of diverse alternations and perspectives which interweave to create a dynamic synergy. Team teaching allows exploring a similar set of issues from divergent views. Cross-disciplinary work, we believe, is prototypical to the SoTL approach. The teaching and the learning are never contained in the same place. The variety of approaches of two or more people, even if alike in preparation, delivers that material from their own unique perspective. Teachers teach from a set of assumptions which can be augmented by someone who teaches that material from their own perspective. These perspectives develop directions which no single teacher could anticipate.

Cross-disciplinary work, we believe, is prototypical to the SoTL approach.

Cross-disciplinary work creates flexibility in perspectives not taken when one person alone is doing the work. Students are then encouraged to look at diverse ways of doing their own work when they see this diverse pedagogy being exampled by their instructors. Human behavior is made of conflicting experiences and habits of action and thought. No one approach to human action can provide an adequate approach to this behavior. Again, however, we believe the students can

say it best. We end this section with another sampling of student comments that touch on the importance of the interdisciplinary nature of our course.

> "It is nice to have a refreshingly optimistic approach to sharing and stating views. It is nice to be forced to view things from different disciplines and perspectives. I often get caught up with being ignored by those who hate and are discriminatory and forget that even one person open to the idea of inclusiveness may be listening and can, in turn, carry on my words and beliefs." WS

> "I would tell them that they must indeed have an open mind to many different topics that are studied in this course. I would tell them that they will learn many new perspectives on many different subjects such as race, culture, politics, etc. I would tell them that their eyes would be opened to problems that we are facing that some of us don't even think about. Through this course and having to look at things from both psychological and political science perspectives, my eyes have been "re-opened" to some things that occur right here in the U.S. such as racism, prejudice, political choices, etc. I would tell them that if they weren't willing to be open-minded about this course, then they shouldn't take it because they would be mad and not learn anything." TN

> "It is a very interesting hatred course due to the fact that it is online and taught by both a psychology and a political science professor. I think that this gives people more freedom to speak about what is on their minds and how they feel about it. The group work has been complicated to make sure we all get together but our discussions are always entertaining. I don't have a problem expressing how I feel about a topic where I might in class be more reserved." KS

Summary

We realize this piece is not, in and of itself, scholarly in nature. Ten years of teaching this course and implementing a process of scholarship of teaching and learning, however, has resulted in some "best practice" ideas and some "lessons learned" that we believe are beneficial for:

1) illustrating how to incorporate SoTL into a course,
2) how to assess the effectiveness of SoTL in a course,
3) how to share SoTL with students,
4) how to satisfy potentially critical colleagues about the usefulness of SoTL, and
5) how to develop a more inclusive worldview in students as a direct result of implementing a SoTL approach in the classroom.

It is our belief that a reflective piece, such as this, is of value for those who are new to SoTL and for providing potentially new ways of doing things to those who have been utilizing SoTL for some time. But, as we believe is always the case, the students can say it best. In closing then, we leave the reader with another sampling of student comments that we believe illustrate the additive value of incorporating a SoTL approach in the classroom.

> "I am glad this course forces us to argue for the need for value-added, civically engaged education, and to utilize critical thinking to prompt exploration of hidden assumptions and biases." AF

"I agree with you, but I also feel some people need a place to start and need a forum like this to open up and explore the issues themselves and to be encouraged to think more critically before acting and instigating a movement without concrete ideas/opinions about a certain issue." WB

"I think what I have learned so far is that we have to agree to disagree. Not everyone is going to see things like you do. If that were the case we wouldn't have anything to talk about. I've also learned we have got to critically think about and evaluate what we are talking about. I've also learned to respect the fact that each of us have been raised with different values, beliefs and ideals of what is and isn't acceptable in society. Once we respect the fact that we are all different and don't see through the same set of eyes, then we can work on changing." IP

References

Hall, R., (2003). Forging a learning community? A pragmatic approach to forging a learning community. *Arts and Humanities in Higher Education, 2,* 155-172.

Hutchings, P. & Shulman, L.S. (1999). The scholarship of teaching: New elaborations, new developments. *Change, 31,* 10-15.

Morrison, T. (2001). How can values be taught in the university? *Michigan Quarterly Review, 40,* 273-278.

Osborne, R.E., Baughn, N., & Kriese, P. (2007). Bridging the gap between the humanities and the social sciences: A crisis resolved. *The International Journal of the Humanities, 5,* 61-65.

Streveler, R.A., Moskal, B.M & Miller, R.L. (2003). Using Boyer's four forms of scholarship to advance engineering education. *The Journal of Scholarship of Teaching and Learning, 3,* 41-50.

Thomas, C. & Butler, J. (2000). Diversity philosophy. Paper presented at the Race, Gender and Class conference, Southern University at New Orleans.

Wagner, M. (2005). Teaching humanities in new ways and teaching new humanities. *The Humanist, 65,* 11-14.

Walker, M. (2002). Pedagogy and the politics and purposes of higher education. *Arts and Humanities in Higher Education, 1,* 43-58.

Randall E. Osborne has conducted scholarship of teaching projects illustrating how to: (1) maximize learning in online courses, (2) minimize the challenges of teaching in an Internet format, (3) take advantage of the unique pedagogical features of online teaching, and (4) create online courses facilitating critical thinking and value exploration.

Paul Kriese' low socioeconomic upbringing near the waterfront of Buffalo, New York and his years as a professor of political science have taught him that "we cannot reconstruct an environment of tolerance and inclusiveness unless we are teaching people to deconstruct the causes of hate in the first place."

Heather Tobey is a senior at Texas State University who has taken a third of her classes online in order to obtain her Bachelors of Applied Science in Psychology. Without the use of the internet courses she would not have been able to pursue her educational goals as she is also a single mother of two and works fulltime.

Appendix A: Course Etiquette as a Foundation for the Scholarship of Teaching and Learning

This is an Internet course. As such, the success of the course relies on active participation by each class member throughout the entire semester.

Even though we are the professors for the course, it is designed as a seminar course, meaning active participation from students is essential.

Although face-to-face interactions will not occur because of our use of the Internet, we do expect continual communication between members of the class and the course faculty. Even though this interaction will be over the Internet, we expect students to use the same etiquette that would be used in a classroom during face-to-face interactions. This etiquette includes:

1) respect for others (their viewpoints, their values, their beliefs);
2) the right to disagree but requires sensitivity to the viewpoints of others;
3) taking responsibility for being involved in developing the issues and topics relevant to this course;
4) active participation in all elements of the course;
5) continual feedback to the instructors about the course, course assignments, and individual viewpoints;
6) a commitment to the mutual exchange of ideas. This means we will not isolate definitive "answers" to the issues we raise but we will actively explore and respect the multiple sides to those issues; and
7) a responsibility to "police" ourselves. We are attempting to develop a community and this requires trust. In order to develop trust, we must know that we can share our ideas and not be "attacked." This also requires that we allow other class members the same trust and freedom we expect.

Appendix B: A Model for the Scholarship of Teaching & Learning

We expect students to demonstrate a significant amount of critical thinking in this course. Because this is so important, we have developed and outlined below a model that you should use as you complete course assignments. Specifically, we believe that critical thinkers demonstrate the ability to address issues at each of the following levels:

1) Recitation – state known facts or opinions. A critical component of this step is to acknowledge what aspect(s) of what is being stated is factual and what is based on opinion.
2) Exploration – analyze the roots of those opinions or facts. This step requires digging below the surface of what is believed or known and working to discover the elements that have combined to result in that fact or that opinion. This is an initial analysis without an attempt to comprehend the impact of those facts or opinions.
3) Understanding – involves an awareness of other views and a comprehension of the difference(s) between one's own opinion (and the facts or other opinions upon which that opinion is based) and the opinions of others. To truly "understand" our own opinion in relationship to others, we must initiate an active dialogue with the other person about his or her opinions and the roots of those opinions. In other words, once we become aware of the roots of our own opinions, we must understand the roots of the opinions of others.
4) Appreciation – means a full awareness of the differences between our views and opinions and those of others. To truly appreciate differences, we must be aware of the nature of those differences. The active dialogue undertaken in the third step (understanding) should lead to an analysis of the opinion as recited by the other. The result should be a complete awareness of the similarities and differences between our own opinions

(and the roots of those opinions) and those of the "other." Although we may still be aware that our opinions differ, we are now in a position to truly appreciate and value those differences.

In our view, it is important to acknowledge that "understanding" does not mean to "accept." The goal is not to get everyone to agree; the goal is to get people to truly explore and understand how and why opinions differ. To understand means to realize the circumstances and motivations that lead to difference and to realize that those differences are meaningful. It is our belief that discussing social issues (such as prejudice or racism) without requiring students to explore the roots of their views, to understand the roots of other views, and to appreciate the nature and importance of different views about those issues, perpetuates ignorance. To raise the issue without using the humanities model may simply reinforce prejudices by giving them voice without question.

Appendix C: Assessment for Articulating Student Progress on Demonstrating Scholarly Learning

Recitation – state known facts or opinions.

The posts from this student clearly state known facts or opinions

1	2	3	4	5
strongly disagree	somewhat disagree	neither agree nor disagree	somewhat agree	strongly agree

Exploration – analyze the roots of those opinions or facts.

The posts from this student effectively explore roots of opinions or facts

1	2	3	4	5
strongly disagree	somewhat disagree	neither agree nor disagree	somewhat agree	strongly agree

Understanding – involves an awareness of other views and a comprehension of the difference(s) between one's own opinion (and the facts or other opinions upon which that opinion is based) and the opinions of others.

The posts from this student reflect an understanding of the roots of the opinions of others.

1	2	3	4	5
strongly disagree	somewhat disagree	neither agree nor disagree	somewhat agree	strongly agree

Appreciation – means a full awareness of the differences between our views and opinions and those of others.

The posts from this student reflect an appreciation for the diverse opinions of others.

1	2	3	4	5
strongly disagree	somewhat disagree	neither agree nor disagree	somewhat agree	strongly agree

The Co-mentoring Project: Overview and Outcomes

Renée A. Zucchero, PhD
Assistant Professor, Department of Psychology
Xavier University

The Co-mentoring Project matched developmental psychology students with older adult volunteers for an intergenerational learning experience. Students conducted a biopsychosocial life review to increase understanding of older adult development and the continuity in lifespan development. Each student developed a summary paper containing the older adult's life history, a developmental analysis, and personal reflection. A project description, including the scholarship of teaching and learning, and an overview of its outcomes are presented. The project goal was accomplished; students positively evaluated learning outcomes and displayed a significant increase in knowledge about older adults and aging. Implications for college instructors are discussed.

The scholarship of teaching and learning (SoTL) involves careful planning and continuous examination (Boyer, 1990), and the systematic investigation of questions related to student learning with the purpose of advancing general practice (Hutchings & Shulman, 1999). Scholars may ask, "What works?" (Hutchings, 2000; Nummedal, Benson, & Chew, 2002) "What are the conditions under which learning occurs?" "What does learning look like?" or "How can I deepen it?" (Hutchings & Shulman, 1999). More specific questions, such as how, when, where, and why students learn and how faculty can create optimal learning opportunities are also posed in the SoTL (Georgia Southern University, Center for Excellence in Teaching, n.d.). The questions raised are discipline based (Hutchings, 2000; McKinney, n.d.) and arise from "the character of the field" (Hutchings, 2000, p. 9). The issue addressed in the current article, "How can we best educate undergraduate students about the process of aging and older adults?" is consistent with the aforementioned inquiries into the SoTL.

Experiential learning is a common pedagogy, selected as it is believed to be superior to traditional teaching methods. Experiential education activities involve direct experience with the topics being studied.

Experiential learning is a common pedagogy, selected as it is believed to be superior to traditional teaching methods. Experiential education activities involve direct experience with the topics being studied (Cantor, 1995; Moore, 2000). Hands-on, active learning experiences are believed to facilitate a more accurate understanding of the process of aging and a change in the negative attitudes students frequently hold about older adults (Bringle & Kremer, 1993). As experiential learners, students are actively engaged in discovering and experimenting with knowledge, rather than being passive recipients of information (Stevens & Richards, 1992).

Two commonly employed techniques are intergenerational experiential learning and service-learning. Intergenerational learning experiences include meaningful interaction (O'Hanlon & Brookover, 2002), "constructive" exchange, and mutual sharing between the generations (Hamon & Koch, 1993). Ageism may be best combated through relationships that allow students "to experience the meaning of aging through direct, dialogical contact with elders" (McGowan & Blankenship, 1994, p. 603). Service-learning is one type of experiential education that includes intentional learning goals and active reflection on learning (National Society for Experiential Education, 1994, as cited by Furco, 1996). The amount and quality of reflection has been recognized as a predictor of service-learning outcomes (Eyler & Giles, 1999). Additionally, service-learning involves integration of service into the academic curriculum (Furco, 1996; Waterman, 1997, as cited in Blieszner & Artale, 2001) and extending learning beyond the classroom (Waterman, 1997, as cited in

Blieszner & Artale, 2001). Application, linking classroom and community experiences, has consistently been associated with better academic learning outcomes (Eyler & Giles, 1999).

Several domains in which students benefit from service-learning have been identified: a deeper understanding of the subject matter (Eyler & Giles, 1999); the ability to apply material learned in class (Cavanaugh, 2001; Eyler & Giles, 1999); increased personal and interpersonal development (Eyler & Giles, 1999); and an increase in student self-understanding (Cavanaugh, 2001). Moore (2000) suggested that experiential learning and service-learning assist in developing practical knowledge and skills. Likewise, service-learning activities can have an impact on "perspective transformation" (Eyler & Giles, 1999).

Several domains in which students benefit from service-learning have been identified: a deeper understanding of the subject matter; the ability to apply material learned in class; increased personal and interpersonal development; and an increase in student self-understanding.

Outcomes of intergenerational experiential learning have been measured by changes in student attitudes or level of knowledge about older adults, or by comparing course grades of students who engage in service-learning to grades of those who do not. Qualitatively, outcomes have been assessed by review of student journal entries or writing assignments. Usually, the capstone has been a summary paper, reflective assignment, or an in-class presentation.

Studies regarding intergenerational learning between undergraduate students and older adults have typically occurred in the context of older-adult focused courses: gerontology (Brown & Roodin, 2001; Doorfman, Murty, Ingram, & Evans, 2002; Hamon & Koch, 1993; Hanks & Icenogle, 2001; Karasik, 2002; O'Hanlon & Brookover, 2002; Purk & Lague, n.d.) or the psychology of aging (Anguillo, Whitbourne, & Powers, 1996; Evans, 1981; Whitbourne & Collins, 1999; Whitbourne, Collins, & Skultety, 2001). Only one study has described an intergenerational learning experience in the context of a lifespan development course (Neysmith-Roy & Kleisinger, 1997).

Thus, intergenerational learning may take the form of experiential education or service-learning and typically occurs in the context of a course about older adulthood. The rationale for these pedagogies is the potential for improved learning outcomes in several domains, consistent with the deepening of student learning (Hutchings & Shulman, 1999) and creation of optimal learning outcomes (Georgia Southern University Center for Excellence in Teaching, n.d.) found in the SoTL. Key ingredients of experiential learning include active, direct, and meaningful contact with older adults, about which students reflect and which is integrated into the in-class experience.

For the Co-mentoring Project, students in a lifespan developmental psychology course were paired with older adult volunteers for an intergenerational learning experience. The goal was to increase student understanding of older adult development and the continuity that exists in development across the lifespan. Several research questions were systematically investigated. First, was the project goal achieved? Similarly, did students become more knowledgeable about older adults and aging? Did the project facilitate student learning about lifespan development, the life of an older adult, and the application of developmental theory and integration of the different stages of life to a real person's life? Finally, what common themes did students report about their project experiences? These questions are consistent with those commonly posed in the SoTL.

Method

Participants

The Co-mentoring Project occurred during three consecutive semesters beginning in the fall of 2005 and was deemed exempt from IRB oversight. Students in developmental psychology at a small, Midwestern, private, Catholic university were strongly encouraged to participate. They were offered the option to complete an alternate assignment; however, all chose to participate (*N*= 70). Developmental Psychology is required for psychology majors and minors, and for occupational therapy majors. Students in related disciplines also enroll. Students were overwhelmingly traditionally-aged undergraduates. More specific information regarding student participants is presented in Table 1.

Table 1: Characteristics of Student Participants

Characteristic		*n*	Percentage
Gender	Female	52	74
	Male	18	26
Class Standing	Freshman	9	13
	Sophomore	27	39
	Junior	23	33
	Senior	8	11
	Graduate	3	4
Ethnicity	Caucasian	60	86
	African American	7	10
	Hispanic	1	1
	Asian	2	3
Major/Minor	Psychology	47	67
	Occupational Therapy	9	13
	Related Disciplines (i.e., Nursing, Education, Biology)	7	10
	Other (i.e., Communication Arts, Undecided, Liberal Arts)	7	10

The instructor recruited older adult co-mentors primarily from the independent living sections of two local private, continuous care retirement communities. A total of 74 volunteers participated, after providing written consent. Volunteers were typically over the age of 70 years, Caucasian, Christian, and of a middle or upper level socioeconomic status (SES). Co-mentors were physically well-enough to participate, which required attendance of meetings at the university. Additional information about the older adult participants is presented in Table 2.

Table 2: Characteristics of Older Adult Participants

Characteristic		*n*	Percentage
Gender	Female	48	65
	Male	26	35
Number of Semesters Participated	One Semester	55	74
	Two Semesters	13	18
	Three Semesters	6	8
Residential Setting	Retirement Community	68	92
	In the Community	6	8

Procedure

Students were briefed about the project at the beginning of the course and were presented with an assignment sheet that included the rationale, requirements, and grading criteria for the project, as recommended by Hamon and Koch (1993). A 50-minute interview-skills lecture was also provided, during which students began to develop a list of questions for the interviews, similar to previous studies (Neysmith-Roy & Kleisinger, 1997; O'Hanlon & Brookover, 2002; Walton, 1988). Thus, others' work serves as a foundation for the project, which is essential to the SoTL (Richin, 2001; Richlin & Cox, 1991).

Students and their partners were generally matched in a random manner and initially met at a group meeting within the first month of the semester. Thereafter, the dyads met at least twice, in person, to conduct a comprehensive, biopsychosocial life review via a student-lead, semi-structured interview. The length and content of meetings was determined by the dyads.

Students completed written reports of the life reviews, including developmental analyses of their partners' lives and personal reflections about their experiences. For the latter, students were instructed to discuss their cognitive and emotional reactions to the assignment, including what they learned intellectually and in terms of life lessons or "pearls of wisdom." Students also created a poster presentation, focused on the life history and developmental analysis. Two months after the initial group meeting, the students and older adults reconvened to share the papers and poster presentations.

Measures

Students completed a shortened version of The Facts on Aging Quiz (FAQ) (Palmore, 1998) within the first three class periods and near the end of the semester. This methodology is consistent with the SoTL, which calls for a baseline assessment of student knowledge (Nummedal et al., 2002; Richlin, 2001). The FAQ is a commonly used 25-item, true-false questionnaire that assesses knowledge of the physical, social, and psychological aspects of aging and stereotypes of older adults. There are two forms of the FAQ-FAQ1 and FAQ2. This study included the first 18 items from the FAQ1 scale; the shortened scale was used to decrease administration time (see Appendix A). Palmore (1998) reported the FAQ1 is reliable and valid. The FAQ has been used with a variety of populations, including undergraduate students, graduate and medical students, and non-student populations.

Students anonymously completed a structured, 12-item evaluation after finishing the project, but before evaluative feedback about their projects was provided. Item responses used a 5-point Likert-type scale, varying from "strongly agree" to "strongly disagree." A copy of this evaluation can be found in Appendix B. The content of the students' personal reflections was analyzed for themes and aggregated to better understand their experience of the project. To increase the reliability of the interpretation of themes, the researcher, one clinical psychology graduate student, and one undergraduate psychology student analyzed the personal reflections individually and then met as a group to compare interpretations.

Results

Quantitative Results

The project evaluation had good internal consistency, as indicated by a Cronbach alpha coefficient of .79. All students completing evaluation item 1 indicated the project's purpose was achieved (N= 63). Results from additional evaluation items relevant to the research questions can be found in Table 3. Overall,

most students responded favorably to these questions. Additionally, there was a statistically significant increase in the students' knowledge about older adults and aging, from pre-test (FAQ *M*= 13.53, *SD* = 2.41) to post-test (FAQ *M*= 15.19, *SD* = 1.81), t (58) = -5.31, $p \leq .001$ (two-tailed), $\eta^2 = .33$. The magnitude of the differences in the means was large.

Table 3: Responses for Student Evaluations

Question	Responses Number of responses (% of responses)					Median Response
	Strongly Disagree (1)	Somewhat Disagree (2)	Neutral (3)	Somewhat Agree (4)	Strongly Agree (5)	
2. This project was a helpful way to learn about lifespan development.	--	3 (5%)	1 (2%)	37 (58%)	22 (35%)	4
5. This project was a helpful way to learn about the life of an older adult.	--	1 (2%)	--	23 (37%)	39 (62%)	5
7. This project was ***not*** a helpful way to learn about the process of aging.	28 (44%)	29 (46%)	1 (2%)	5 (8%)	--	2
12. As a result of this project, I better understand how to apply developmental theory and integrate the different stages of life to a real person's life.	--	6 (10%)	1 (2%)	39 (62%)	17 (27%)	4
Number of evaluations available= 63 Note: The percent totals for some items do not equal 100%, due to rounding error.						

Common Themes Reported in Students' Personal Reflections

Sixty personal reflections were available for review. Fourteen personal reflections were available for the fall 2005 semester, 23 reflections for the spring 2006 semester, and 23 for the fall 2006 semester. Many students during the first semester did not include a personal reflection, resulting in fewer available reflections. An open coding qualitative analysis (Strauss & Corbin, 1993) revealed numerous common themes; the six most common are presented in Table 4. A more detailed presentation of this qualitative analysis is available elsewhere (Zucchero, in preparation).

Table 4: Summary Table of Most Common Qualitative Themes from Personal Reflections

Themes	Number of Occurrences (% of Occurrences) per Semester			Total
	Fall 2005	Spring 2006	Fall 2006	
Admiration	8 (57%)	18 (78%)	8 (35%)	34 (57%)
Inspiration	8 (57%)	14 (61%)	12 (52%)	34 (57%)
Good Project	9 (64%)	13 (54%)	11 (48%)	33 (55%)
Advice/Learned about life/ Significant influence	7 (50%)	6 (26%)	14 (61%)	27 (45%)
Positive Quality of the Older Adult	2 (14%)	8 (35%)	15 (65%)	25 (42%)
Introspection	6 (43%)	8 (35%)	10 (43%)	24 (40%)
Number of Personal Reflections Available = 60				

Discussion

According to students' self-report, the overall goal of the Co-mentoring Project was achieved. An overwhelming majority of students disagreed with an evaluation item indicating the project was not a helpful way to learn about aging. Similarly, most students agreed the project was helpful in learning about lifespan development. Thus, in agreement with previous studies (Blieszner & Artale, 2001; Whitbourne et al., 2001), most student self-reports indicated the Co-mentoring Project assisted in increasing their understanding of aging and lifespan development. Students also displayed a significant increase in knowledge about aging and stereotypes about older adults, which is consistent with prior research (Angiullo et al., 1996).

Application of course information is a key facet of this project which has been identified as a benefit of service-learning (Cavanaugh, 2001; Eyler & Giles, 1999). Most students indicated that their understanding of how to apply theory to the life of a unique individual improved, and students' personal reflections were indicative of this. For example, a student wrote, "… I did not just memorize this information for a test, but I really learned it. This information will stick in my head because I applied the information to [my partner's] life." Enduring learning has been identified as a goal of the Carnegie Academy for the Scholarship of Teaching and Learning (CASTL) (Hutchings, 2000).

Eyler and Giles (1999) emphasized the integration of service-learning into the course. The students' project-related experiences, including their partners' life histories, experiences, and advice were frequently incorporated into class discussions. Students frequently used their co-mentoring experience as a basis for discussion about older adulthood-experience that may not have been available to them without the project, due to the distant relationships many young people often have with older adults. Thus, the experiences associated with the project are carefully integrated into the course.

Eyler and Giles (1999) described the importance of reflection on service-learning outcomes. Students completed a personal reflection, including their cognitive and emotional responses. Introspection was spontaneously reported by 40 percent of the participants. This is congruent with Cavanaugh's (2001) belief that college education should increase self-understanding. Nearly half of students reported they received advice from their partners, learned about life, or that their partner had a significant influence on their lives. One student wrote, "I didn't only learn more about developmental theories and processes from interviewing [my co-mentor], I learned about life." This is consistent with the idea that students may have developed personally as a result of the project (Eyler & Giles, 1999).

Some students may have experienced "perspective transformation" (Eyler & Giles, 1999). For example, more than half of participants described being inspired

by their partner, and over half indicated they admired their co-mentor. Over 40 percent of students reported a positive quality of their co-mentor. Often, this statement was made in the context of the students changing their perceptions about what older adults are "supposed to be like."

Overall, 55 percent of students described the Co-mentoring Project as a "good project" in their personal reflections. In reviewing the context of these statements, many students indicated they enjoyed spending time with their partners. Other students indicated the project forced them to apply what they had learned in class. Still others reported they learned about life as a result of the meetings with their partners. Thus, the reasons why students had a positive project experience varied.

The scholarship of teaching and learning entails systematic inquiry into student learning.

The SoTL entails systematic inquiry into student learning (Hutchings & Shulman, 1999). The Co-mentoring Project regularly assessed student learning by using a pre-and post-assessment of knowledge of aging and older adults. In addition, students evaluated the project at the end of the semester. Student personal reflections were reviewed for themes by a team of three, and those themes were aggregated to understand the commonalities of the student experience. This multidimensional assessment strategy is consistent with a "higher standard" of scholarship and a more comprehensive review strategy (Richlin & Cox, 1991) required by the SoTL. Moreover, it builds upon the work of others (Richlin, 2001; Richlin & Cox, 1991) by using three capstone experiences (i.e., life review paper, personal reflection, and poster presentation).

Nummedal et al. (2002) indicated the experimental method is not currently an appropriate "approach to inquiry" for the SoTL in the field of psychology. The limitations of this study are congruent with this statement. No control group was available. Therefore, it is not possible to attribute the students' increased knowledge about older adulthood solely to their participation in the project. Also, several outcomes are based upon the students' self-report, with the modified FAQ serving as an objective outcome measure. Hence, it is possible that demand characteristics or social desirability may have skewed some results. Finally, most of the older adult volunteers were healthy, which may have positively biased the students' perceptions of older adults.

This study has implications for college teachers from a variety of disciplines. This study shows that a project focused on older adults and aging can successfully be integrated into a lifespan development course. Therefore, similar projects could reach a broader student base, including those who might not choose to enroll in an elective specific to older adults. Application of theory, as required in this project, may make course content more meaningful to students. Thus, this assignment is appropriate for courses that are based in theory, such as psychology or sociology courses.

Students who are enrolled in courses of study leading to helping professions (i.e., nursing, physical therapy, premedical studies) would benefit from this assignment, since the world and American populations are aging. While it is likely that these students will be serving a large number of older adults, they may have limited exposure to this growing population. Moreover, 33 percent of the student participants were enrolled in courses of study other than psychology, including occupational therapy, education, and liberal arts.

Also, students' developmental analyses assessed the impact of historical events on their partners' lives (i.e., history-graded, normative life events). For many students, distant historical events (i.e., the Great Depression, World War II) became more personally meaningful and relevant. Consequently, this project may be complementary for history courses. Communication arts students may gain from such an assignment, as a study of intergroup communication processes. In addition, the project's methodology could be modified for use with other underserved populations, such as ethnic minorities or persons of lower socioeconomic status.

Several statements about the student project experience can be made. All students reported the project's goal was achieved and the overwhelming majority evaluated the project's learning outcomes positively. In addition, student performance on an objective measure of knowledge about aging significantly improved. The project has several characteristics of an effective service-learning experience: reflection, integration with course content, and application/linkage of student experiences. A comment from a student's personal reflection represents an optimal learning experience: "I realize now why this is a co-mentoring project! … We learned a lot from each other."

In conclusion, the Co-mentoring Project is an example of the scholarship of teaching and learning. The systematic investigation of the question, "How can we best educate undergraduate students about the process of aging and older adults?" is congruent with the investigation of those questions posed by scholars in this area. Specifically, the question, "What works?" is representative of those raised within the discipline of psychology (Nummedal et al., 2002). Baseline assessment is utilized regularly in the SoTL (Nummedal et al., 2002; Richlin, 2001) and this project. Moreover, the project undergoes continuous examination (Boyer, 1990) to deepen the students' experience (Hutchings & Shulman, 1999) and create "optimal learning outcomes" (Georgia Southern University, Center for Excellence in Teaching), as demonstrated in this article.

References

Anguillo, L., Whitbourne, S.L., & Powers, C. (1996). The effects of instruction and experience on college students' attitudes toward the elderly. *Educational Gerontology, 22*, 483-495.

Blieszner, R. & Artale, L.M. (2001). Benefits of intergenerational service-learning to human services majors. *Educational Gerontology, 27*, 71-87.

Boyer, E.L. (1990). *Scholarship reconsidered: Priorities of the professoriate.* Princeton, NJ: Carnegie Foundation for the Advancement of Teaching.

Bringle, R.G. & Kremer, J.F. (1993). Evaluation of an intergenerational service-learning project for undergraduates. *Educational Gerontology*, 19, 407-416.

Brown, L.H. & Roodin, P.A. (2001). Service-learning in gerontology: An out-of-classroom experience. *Educational Gerontology, 27*, 89-103.

Cantor, J.A. (1995). *Experiential learning in higher education: Linking classroom and Community* (Report No. ED 404949). Washington, DC: ERIC Clearinghouse on Higher Education. Retrieved June 29, 2007, from http://eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/6/52/f8.pdf

Cavanaugh, J.C. (2001). Learning and doing: The importance of service-learning in gerontology. *Educational Gerontology, 27*, 117-124.

Doorfman. L.T., Murty, S., Ingram, J.G., & Evans, R.J. (2002). Incorporating intergenerational service-learning into an introductory gerontology course. In M.J. Mellor & J. Ivry (Eds.), *Advancing gerontological social work education* (pp. 219-240). Binghamton, NY: The Haworth Press, Inc.

Evans, J.D. (1981). Personal involvement projects in the psychology of aging: Some examples and an empirical assessment. *Teaching of Psychology, 8*, 230-233.

Eyler, J. & Giles, D.E. (1999). *Where is the learning in service-learning?* San Francisco, CA: John Wiley and Sons, Inc.

Furco, A. (1996). Service-learning: A balanced approach to experiential education. In B. Taylor (Ed.). *Expanding boundaries: Service and learning* (pp. 2-6). Washington, DC: Corporation for National Service.

Georgia Southern University Center for Excellence in Teaching. *What is SoTL?* (n.d.). Retrieved May 15, 2008, from http://academics.georgiasouthern.edu/cet/sotl_info.htm

Hamon, R.R. & Koch, D.K. (1993). The elder mentor relationship: An experiential learning tool. *Educational Gerontology, 19*, 147-159.

Hanks, R. S. & Icenogle, M. (2001). Preparing for an age-diverse workforce: Intergenerational service-learning in social gerontology and business curricula. *Educational Gerontology, 27*, 49-70.

Hutchings, P. (Ed.) (2000). *Opening lines: Approaches to the Scholarship of Teaching and Learning.* Princeton, NJ: Carnegie Foundation for the Advancement of Teaching.

Hutchings, P. & Shulman, L.S. (1999). The scholarship of teaching: New Elaborations, New Developments. *Change, 31*, 10-15.

Karasik, R.J. (2002, October). So that's what it's like to be old! The impact of intergenerational service-learning on undergraduate attitudes toward aging. Poster presented at the 55th Annual Scientific Meeting of the Gerontological Society of America, Boston, MA.

McGowan, T.G. & Blankenship, S. (1994). Intergenerational experience and ontological change. *Educational Gerontology, 20*, 589-604.

Moore, D.T. (2000). The relationship between experiential learning research and service-learning research. *Michigan Journal of Community Service Learning, 7*, 124-128.

Neysmith-Roy, J.M. & Kleisinger, C.L. (1997). Using biographies of adults over 65 years of age to understand life-span developmental psychology. *Teaching of Psychology, 24*, 116-118.

Nummedal, S.G., Benson, J.B., & Chew, S. L. (2002). Disciplinary styles in the scholarship of teaching and learning: A view from psychology. In M.T. Huber & S.P. Morreale (Eds.), *Disciplinary styles in the scholarship of teaching and learning: Exploring common ground*. (Report No. ED478800). Washington, DC: ERIC Clearinghouse on Higher Education. Retrieved May 14, 2008, from http://eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/1b/3e/7f.pdf

O'Hanlon, A.M. & Brookover. B.C. (2002). Assessing changes in attitudes about aging: Personal reflections and a standardized measure. *Educational Gerontology, 28,*711-725.

Palmore, E.B. (1998). *The Facts on Aging Quiz* (2nd edition). New York, NY: Springer Publishing Company.

Purk, J.K. & Lague, M. (n.d.). *Service-Learning and qualitative research at the State University of West Georgia*. Retrieved June 7, 2007, from http://66.102.1.104/scholar?hl=en&lr=&q=cache:MHE6Czvz9OoJ:service.gt.pitt.edu/2003regional%2520products/ServiceLearning%2520and%2520Qualitative%2520Research%2520at%2520the%2520State%2520University%2520of%2520West%2520Georgia.doc+related:MHE6Czvz9OoJ:scholar.google.com/

Richlin, L. (2001). Scholarly teaching and the scholarship of teaching. *New Directions for Teaching and Learning, 86*, 57-68.

Richlin, L. & Cox, M.D. (1991). The scholarship of pedagogy: A message from the editors. *Journal on Excellence in College Teaching, 2*, 1-8.

Stevens, P. W. & Richards, A. (1992). *Changing schools through experiential education* (Report No. ED345929). Charleston, WV: ERIC Clearinghouse on Rural Education and Small Schools. Retrieved June 29, 2007, from http://eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/28/ed/c3.pdf

Strauss, A. & Corbin, J. (1990). Basics of qualitative research: Grounded theory procedures and techniques. Newbury Park, CA: Sage Publications.

Walton, M.D. (1988). Interviewing across the life span: A project for adult development course. *Teaching of Psychology, 15*, 198-200.

Whitbourne, S.K. & Collins, K. (1999). Employing interactive learning methods in a course on the psychology of aging. *Teaching of Psychology, 26*, 48-49.

Whitbourne, S.K., Collins, K.J., & Skultety, K.M. (2001). Formative reflections on service-learning in a course on the psychology of aging. *Educational Gerontology, 27*, 105-115.

Zucchero, R.A. (2008). Inspiring and Admiring: Qualitative Outcomes of the Co-mentoring Project. Manuscript in preparation.

Renée *Zucchero, PhD, is an Assistant Professor of Psychology at Xavier University in Cincinnati, Ohio. Her teaching responsibilities include undergraduate psychology and graduate geropsychology courses. Dr. Zucchero's research interests include pedagogy in undergraduate psychology courses and the mental health of women who experience substance use disorders.*

Appendix A: The Myths of Aging Quiz

True or False

1) The majority of old people (age 65 and older) are senile (have defective memory, are disoriented, or demented).
2) The five senses (sight, hearing, taste, smell, and touch) all tend to weaken in old age.
3) The majority of old people have no interest in, nor capacity for, sexual relations.
4) Lung vital capacity tends to decline in old age.
5) The majority of old people feel miserable most of the time.
6) Physical strength tends to decline in old age.
7) At least one-tenth of the aged are living in long-stay institutions (such as nursing homes, mental hospitals, and homes for the aged).
8) Aged drivers have fewer accidents per driver than those under age 65.
9) Older workers usually cannot work as effectively as younger workers.
10) Over three-fourths of the aged are healthy enough to carry out their normal activities.
11) The majority of old people are unable to adapt to change.
12) Old people usually take longer to learn something new.
13) It is almost impossible for the average old person to learn something new.
14) Older people tend to react more slowly than do younger people.
15) In general, old people tend to be pretty much alike.
16) The majority of old people say they are seldom bored.
17) The majority of old people are socially isolated.
18) Older workers have fewer accidents than younger workers.

Appendix B: Co-mentoring Project Student Evaluation Form

To evaluate the usefulness of this project and assist in improving it for future students, please complete this evaluation form. Rate your agreement or disagreement on questions 2 through 12 from strongly disagree (1) to strongly agree (5). Please be honest in your responses. Additional comments or suggestions are encouraged and should be included on the back of this page.

1) As indicated on the assignment form for the co-mentoring project, the purpose of the project was, "To facilitate an increase in students' understanding of the development of an older adult and the continuity that exists in development from earlier periods in the lifespan." Was this goal accomplished?
2) This project was a helpful way to learn about lifespan development.
3) This project was not intellectually challenging.
4) The interview skills lecture did not help me in preparing for the meetings with my partner.
5) This project was a helpful way to learn about the life of *an* older adult.
6) I feel more comfortable interacting with older adults than I did before I began this project.
7) This project was not a helpful way to learn about the process of aging.
8) I feel more comfortable in the interview situation than I did before I began this project.
9) This project was not worth the time commitment.
10) I enjoyed this project.
11) The poster presentation assisted me in developing a sense of closure for this project.
12) As a result of this project, I better understand how to apply developmental theory and integrate the different stages of life to a real person's life.

Faculty and Student Attitudes about Transfer of Learning

Robin Lightner, PhD
Associate Professor of Psychology, Department of Behavioral Science
Raymond Walters College, University of Cincinnati

Ruth Benander, PhD
Professor of English, Department of English and Communication
Raymond Walters College, University of Cincinnati

Eugene F. Kramer
Associate Professor of Math, Department of Math, Physics, and Computer Science
Raymond Walters College, University of Cincinnati

Transfer of learning is using previous knowledge in novel contexts. While this is a basic assumption of the educational process, students may not always perceive all the options for using what they have learned in different, novel situations. Within the framework of transfer of learning, this study outlines an attitudinal survey concerning faculty and student attitudes about transfer of learning. Faculty and students completed a measure of expectations for transfer and potential barriers to transfer. The survey clarifies unique and common beliefs about transfer in order to promote learning beyond a single course. The results show a clear need for faculty to be explicit about their expectations for transfer.

Sometimes the simplest questions are the most important ones to ask, and they often result in simple answers that are ironically difficult to implement. Basic questions like "Why don't students remember what we did last semester?" concern our most fundamental assumption about the function of teaching and the purpose of learning. Our educational system is based on this assumption that students transfer what they learn in one course to another, ultimately graduating with accumulated knowledge they can apply to their careers. The transfer of learning is an assumption that merits study. Mestre and his colleagues (2002) provide this definition: "We define transfer of learning (hereafter transfer) broadly to mean the ability to apply knowledge or procedures learned in one context to new contexts" (p. 3). Marini and Genereux (1995) define transfer of learning as "prior knowledge affecting new learning or performance" (p. 2). An example of effective transfer would be when a student learns to create graphs in geometry and can then create graphs for a lab report in chemistry. An example of lack of transfer, where a teacher might expect transfer, would be when a student does not know how to do references for a history paper, although he or she may have done several papers with references in a previous composition course. To begin to break down this complex problem, this study examines and compares faculty and student attitudes about the transfer of learning.

Sometimes the simplest questions are the most important ones to ask, and they often result in simple answers that are ironically difficult to implement.

Research into the process of transfer shows how problematic it is to assume that transfer happens automatically. In fact, it does not, and there are many barriers in traditional teaching that may actually inhibit such transfer, barriers such as assessments that emphasize recall of discrete facts rather than application in various contexts, lack of practice applying concepts to different situations, or lack of interdisciplinary references in lectures. The research into the transfer of learning has presented a complex picture. Relevant areas of study include the processes and awareness of transfer as well as the transfer of skills and concepts. In addition, researchers have examined transfer itself and instruction methods that promote transfer.

McKeough, Lupart and Marini (1995) present an excellent collection of

papers outlining the facets of transfer in terms of different tasks, different learner variables, and different contexts. They suggest that, given the complexity of transfer, instructors should focus on teaching learners to generalize their knowledge so they can better transfer what they know from one situation to another. Transferring knowledge from one situation to a similar situation, or near transfer, seems to be relatively easy, while transferring knowledge to novel situations, or far transfer, seems more difficult (Bransford, Brown & Cocking, 1999; Barnet & Ceci, 2002). In fact, what a student considers near or far transfer can depend on his or her individual perceptions or expectations of what is similar or novel.

In terms of the transfer of specific skills, Salomon and Perkins (1987) suggest that it may be easier to transfer physical skills from one context to another, while transferring generalized concepts may be more difficult. They call the use of automatic skills in varied contexts "low-road transfer," such as knowing how to drive a car and then learning to drive a small truck. This type of transfer is accomplished through practice, and the depth of transfer greatly depends on the variation of the context during practice. "High-road transfer" is the conscious, formal abstraction of concepts in one situation which supports making connections to another type of situation, such as knowing how to use a clutch in a car and then learning how to use a clutch on a motorcycle. These outcomes of transfer are mediated by what learners believe they can know, and how well they can reflect on that knowledge.

Due to the many variables involved in transfer of learning, the body of research in the 20th century has been wide-ranging. In an effort to better focus research on transfer, in 2002 the National Science Foundation (NSF) held a workshop on transfer of learning; the resulting report outlined a theoretical agenda for research about transfer of learning. This agenda included promotion of studies that explore teacher and learner beliefs and strategies that would promote transfer from one content area to another, as well as inquiry into the role of situated metacognition in transferring learning from one context to another. The participants in the workshop suggested that research should include not only laboratory-based studies but also real-world observations to better understand the learning and teaching strategies that best promoted transfer. The transfer of learning theories reviewed by this NSF workshop suggest a framework for examining metacognitive strategies and the application of knowledge. These theories translate readily into practice as classroom assessment techniques and interventions that promote metacognition, such as creating tests that assess broad transfer of concepts; helping learners appreciate the practicality of transferring ideas from one context to another; and helping teachers appreciate the value of letting students struggle with difficult material.

Due to the many variables involved in transfer of learning, the body of research in the 20th century has been wide-ranging.

Whereas research has begun to examine instructional methods (e.g. Case & Gunstone, 2002; DeCorte, 2003), metacognitive processes (Pressley et al., 2001), and self-regulation (Winne & Hadwin, 1998; Zimmerman & Kitsantas, 2002), little attention has been focused on the attitudinal components of transfer. Pea (1987) discussed how attitudes influence transfer of learning, but did not measure attitudes or offer data to support this idea. In his research, he suggested that learner beliefs about the appropriate context for a skill will strongly influence its transfer. He used the example of Brazilian street children who could do calculations when they were selling merchandise on the street, but who were unable to do basic math when they got to school (p. 644). This research suggests that attitudes about what can be learned and where it is appropriate to apply certain knowledge are culturally conditioned. The discussion concluded that teachers should focus on helping students become more metacognitively aware, so that they can use their knowledge more effectively for transfer. McCombs and Marzano (1990) also showed that attitudes are key to self-regulation models affecting metacognition. Before a student can be metacognitively aware, he or she must believe that this is possible and desirable.

Inferences about faculty expectations may contribute to these beliefs. Students may not spontaneously understand that faculty expect them to use information from previous classes without specific instruction. Anecdotally, students are more concerned about what a particular teacher wants on a given assignment. They actively try to adapt to these idiosyncratic requirements (Sherman, 1985). Thus, students may focus more on what they think the teacher wants, than on what kinds of thinking the assignment requires. Pressley et al. (1998) found that students are very aware of factors that guide studying style. What students see as idiosyncratic requirements may actually be expectations of more general transfer that they do not understand. For instance, formatting citations is a general skill that varies in style from one discipline to another. A psychology teacher may hope in vain that a student will transfer what she has learned about MLA source citations in her English course to her psychology course; while the English teacher may mistakenly think she has prepared a student for a history paper by teaching humanities citation format for an English composition research paper.

Clearly, the research indicates that while faculty expect transfer, there are many barriers to such transfer. The work done in attitudinal factors suggests that students' attitudes towards learning exert a powerful force on the strategies they choose to use. Thus, if we want to promote transfer of learning, students and faculty need to share an expectation of transfer as a foundation for promoting it. A group of faculty at our college created a faculty learning community to investigate why it is apparently difficult for students to transfer information they learned in past courses to present courses. We began our investigation with the basic assumption of faculty that transfer of learning is inherent to the learning process. We wanted to know if this was also the students' perceptions of transfer. To further explore the relationship of student and faculty attitudes concerning transfer of learning, we surveyed students and faculty from the same institution to find out how similar their expectations of transfer and perceptions of the barriers to transfer might be. Both groups completed a survey about learning attitudes and provided examples of transfer. The researchers hypothesized that faculty's attitudes would include higher expectations for transfer than students', which may underlie faculty's perception that there are problems with transfer. Furthermore, the survey explored their attitudes about barriers to transfer to find out if students perceived barriers that faculty were not aware of.

Students may not spontaneously understand that faculty expect them to use information from previous classes without specific instruction.

Method

Participants

Participants included full- and part-time faculty members (n = 45) from a variety of disciplines at a two-year college and students (n = 265) from a variety of courses. This convenience sample of courses was likely to be representative of the college where the average age of students is 27, and 60% of the students are female.

Measures

Participants rated items on Likert-type scales with responses from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*) concerning, first, the importance of transfer; second, the ease of transferring material across similar contexts; and finally, across dissimilar contexts. Additionally, participants indicated their agreement on Likert-type scales from 1 (*Strongly Disagree)* to 5 (*Strongly Agree*) with statements about the impact of six potential barriers to transfer: a) relevance of the material; b) need to focus on what individual teachers want; c) knowing the

material well enough; d) liking to think that hard; e) confusion; and f) time constraints. An open-ended question asked for other potential factors that would inhibit transfer, and students were asked to describe a project or assignment that required them to pull in material from another course.

Results

Transfer Attitudes

Table 1 shows that student and faculty attitudes concerning transfer differ considerably. Although students reported that course material overlaps somewhat between courses, and they sometimes think about that overlap, they believe that transfer is less important than faculty think, t (306) = 7.05, p = .01. Faculty reported that to relate material from one course to the next is not as difficult as students believe, t (306) = 2.80, p = .01. Students and faculty agreed that the carryover should be greater in the same subject than from one subject to another; but the faculty had higher expectations for transfer of learning within disciplines than the students, t (306) = 4.90, p < .01, and across disciplines, t (306) = 4.19, p = .00.

Table 1: Means and Standard Deviations of Student and Faculty Ratings of Attitudes about Transfer

	Students (n = 264)	Faculty (n = 44)
The material applies/overlaps	3.29 (1.05)	--
I often think about other courses' material	3.18 (.80)	--
It is important to relate material	3.59 (.96)	4.64 (.61)
It is easy to use or apply material	3.27 (.89)	2.83 (.93)
Professors (I) expect carryover: Same subject	3.87 (.93)	4.56 (.59)
Professors (I) expect carryover: Different subject	3.07 (.80)	3.66 (.75)
Note. Questions are on 5-point Likert scales from Never to Always or from Not at All to Extremely. All differences are statistically significant, p < .01.		

Barriers to Transfer

Table 2 shows noteworthy differences between faculty and student attitudes about the factors that affect transfer. Faculty acknowledged more readily than students that the relevance of the material may inhibit transfer, t (305) = 4.75, p = .01. Students agreed more strongly than faculty that the student needs to focus on what the teacher wants, t (306) = 8.06, p = .01. Faculty reported that poor command of the material inhibits transferring knowledge more than students did, t (306) = 3.94, p = .01. When asked whether transfer would confuse a student, faculty and students both disagreed that this would be the case. However, the faculty reported that confusion hinders transfer less than the students indicated that it could, t (305) = 3.73, p = .01. Faculty and students indicated that lack of time was not as important a barrier to transfer as other factors; but the students reported, more than faculty did, that being pressed for time can inhibit transfer, t(305) = 2.25, p = .03.

Table 2: Means and Standard Deviations of Student and Faculty Ratings of Factors Affecting Transfer

	Students (n = 264)	Faculty (n = 44)
The material is relevant	3.68 (.69)	4.27 (.76)
I (Students) need to focus on what the teacher wants	4.20 (.74)	3.07 (1.07)
I (Students) don't know the material well enough yet	2.66 (.87)	3.27 (.97)
I (Students) don't like to think that hard	3.82 (.84)	2.34 (.91)
It might confuse students	2.57 (1.00)	1.95 (1.05)
I (Students) don't have time	2.80 (1.01)	2.45 (1.04)
Note. Questions are on 5-point Likert scales from Strongly Disagree to Strongly Agree. All differences between student and faculty ratings are significant, p < .05.		

In the open-ended responses, faculty mentioned the difficulty of creating explicit connections. Responses to the question "Are there any other factors that keep the material in one course separate from what's being taught in another course?" include the following:

- Faculty personal preference --unwillingness to negotiate.
- There is no coordination of material. Coordinating would improve uptake.
- Faculty not attempting to generate such responses and connections.
- Professors use different language to describe the same processes so it may be hard to recognize.
- Some professors are idiosyncratic about what they specifically require and thus build a silo around themselves.
- Lack of references to examples beyond the discipline and outside the classroom.

Student Experiences with Transfer

Although students rated transfer as less important than faculty did on the attitude survey questions, in the open-ended answers, students provided several examples of transfer. Some students readily cited making connections on their own with positive, confident results:

- "Well, I have had to write papers before that required remembrance of other courses. It is not so much that the professors require it, it just pops into my head so I am willing to use it. I might not know for sure about the facts I learned in another class, but it usually sounds at least familiar."
- "One example [of transfer] is History of Modern Europe- I previously took Art History beginning with the Renaissance. This same material began our Mod. Europe course-Humanism, rediscovering Ancient Rome and Greek culture. It was a nice advantage to know a bit about what happened then; we have to go to the Art Museum for Modern Europe Class and compare medieval art to Renaissance art. I am confident doing this assignment due to my Art History class."
- "Due to my understanding of certain classes, I find myself catching on quicker in others. Classes always, for some reason, coincide with one another causing my brain to be soothed by the familiarity of general (sometimes specific) ideas."

Discussion

This attitudinal survey showed that overall, both faculty and students report that they have expectations about transfer. Students reported transfer of skills and concepts from one course to another, not just related courses in a series. However, faculty reported higher expectations for both near and far transfer situations. The difficulties students reported include lack of time and needing to meet the demands of a specific instructor.

Many students provided examples of transfer in open-ended questions in this study. They reported making spontaneous transfers that were not explicitly part of a given course. These results are encouraging. In contrast, some common classroom practices may not facilitate transfer. Alexander and Murphy (1999) suggest that learning environments are often specifically structured against the practice of transfer, including the instructor not modeling, rewarding, encouraging, or giving opportunities to express transfer. Alternatively, faculty might assume it is the student's responsibility to transfer knowledge, and leave it entirely up to the student to make the necessary connections. Therefore, students are left on their own to understand, for example, that their citation skills can be used in other courses or that their critical thinking skills will help them in any course. Engle (2006) found that when instructors framed multiple contexts for applying student learning among elementary school students, the students were able to explain phenomena better in different situations. This framing could be equally useful, in albeit more complex circumstances, at the college level; there, faculty could make more explicit interdisciplinary connections during instruction, or create assignments that involved students in a variety of applications of course content. When instructors explicitly design classroom assignments with transfer in mind, then transfer is more likely to happen.

However, students' beliefs that transfer should occur within and across disciplines still lag behind faculty views. It is possible that students do not always know that faculty expect transfer and thus do not report that they believe that it should happen. Also, students report in the survey what they perceive to be idiosyncratic faculty requirements as barriers to transfer. Thus, students might not believe faculty find transfer to be important. This survey shows a clear need for faculty to be explicit about their expectations for transfer. Assignments requiring reflection about prior learning can communicate transfer expectations, while reference to specific skills learned in other courses would indicate that expectations are not idiosyncratic.

This survey shows a clear need for faculty to be explicit about their expectations for transfer.

Suggestions from these survey results, the transfer literature, and our experiences with transfer include rewarding the student who brings examples from other contexts into classroom discussions. For example, a biology instructor might ask students to include in presentations what current research is being done on the topic they have chosen to present. Also, encouraging and modeling transfer can help students understand that transfer is not only possible but useful. For example, history courses could include literary works from the time period under study, chemistry courses could include social implications of chemical technologies, or literature courses could include visual art representing the aesthetics of the literary period of study. In this way, teachers can ask students to generate possible applications or uses of the material in a forward-looking practice (Halpern & Hakel, 2003); or, teachers can include references to how other disciplines view or work with the concepts that are being discussed in a particular class. It may also be helpful to decontextualize information to get students to see the bigger picture and be able to recognize ideas in other settings (Salomon & Perkins, 1989). For example, in a psychology course, students might be asked to think about how historians' work is affected by the hindsight bias, or in a math course, students could study how advances in mathematical thought have changed perceptions of the universe over time.

In response to student perceptions that idiosyncratic requirements block transfer, faculty might communicate better within and between departments on common skills they expect to transfer. For example, a college-wide discussion of citation expectations could help students receive a more consistent message about citation in papers. Natural sciences and mathematics faculty might discuss the common skills they expect students to command; they can then remind students that those skills are transferable and ensure that these skills appear at coordinated times in the larger program curriculum.

Student learning communities, problem-based learning, and inquiry learning can encourage transfer. The goal of transfer and its theoretical framework underlies these techniques. The goal of a university education is to promote students' knowledge to transfer beyond the college experience. The point is to promote in-class learning as significant to students' lives, beyond the "learn and dump" model of cramming for exams (e.g., Fink, 2003). This goal can be fostered by creating learning experiences where the connections between content areas can be explored in meaningful ways that require students to solve real-world problems by taking interdisciplinary approaches (e.g. Michelson, Knight, & Fink, 2004).

Student learning communities, problem-based learning, and inquiry learning can encourage transfer.

There are other techniques that can encourage reflection which promotes transfer even in lecture classes. These reflective techniques include requiring elaboration, having multiple opportunities for retrieval, and practicing with a variety of examples. Other reflective techniques, such as Think-Pair-Share and minute papers, require students to stop passive note-taking and engage the material actively (Nilson, 2003). All of these active learning techniques affect the engagement and general understanding of the immediate subject matter, which encourages transfer. If a student is not engaged in the subject matter, the likelihood that he or she will retain the information is low. A student who cannot understand how information can be generalized has more difficulty reflecting on how it might be used in novel contexts. Active learning strategies encourage creative application of knowledge by changing attitudes about the variety of opportunities to use the material from class.

This attitudinal survey is a simple way to begin the exploration of transfer attitudes. This study did not look at whether attitudes predicted transfer; however, it can inform faculty of the need to address the transfer issue explicitly. Some limitations of the current survey study include the potential social desirability problem of a survey. Perhaps, instead of asking about interest in transfer, future studies could analyze actual course assignments across disciplines. This analysis could identify required elements of transfer as an indication of transfer expectations. Another issue is the fit of transfer within the curriculum. Many of the transfer theorists make teaching recommendations at the course level, but neglect to show how courses fit together in the larger curriculum. These larger curricular issues may be more predictive of transfer than individual techniques. In industry, researchers found that creating a culture of transfer mattered. Bates and Khasawneh (2005) found that organizations needed to actively create climates that encouraged transfer. In such a climate, employees were more likely to make innovative applications. Finally, many of the suggestions for improving transfer through active learning do not have data to support them; nor do we fully understand what factors in these techniques promote transfer. Future studies should examine the impact of these elaborative exercises, not just on the retention of the material, but on the ability to recognize opportunities to use the material in other contexts.

Transfer of learning is an important issue for faculty to consider. The assumption of transfer underlies the entire educational system—universities are predicated on the belief that students will be able to apply in their careers what they learned in the classroom. There is a folk-belief that contradicts this idea, expressed

in the t-shirt philosophy, "I went to college and all I got was this piece of paper." This assumption, that there is no transfer of what a person learns in college, needs to be specifically addressed. Students can and should transfer knowledge from one course and discipline to another. This process is difficult, and faculty members should help students master it. Innovations in teaching should help students make connections with what they know.

References

Alexander, P. A. & Murphy, P. K. (1999). Nurturing the seeds of transfer: A domain-specific perspective. *International Journal of Educational Research, 31*, 561-576.

Barnett, S. & Ceci, S. (2002). When and where do we apply what we learn? A taxonomy for far transfer. *Psychological Bulletin, 128*(4), 612-637.

Bates, R. & Khasawneh, S. (2005). Organizational learning culture, learning transfer climate and perceived innovation in Jordanian organizations*. International Journal of Training and Development, 9*(2), 96-109.

Bransford, J., Brown, A., & Cocking, R. (1999). *How people learn: Brain, mind, experience, and school.* Washington D.C.: National Academy Press.

Case, J. & Gunstone, R. (2002). Metacognitive development as a shift in approach to learning: An in-depth study. *Studies in Higher Education, 27*, 459-470.

DeCorte, E. (2003). Transfer as the productive use of acquired knowledge, skills, and motivations. *Current Directions in Psychological Science***,** *12*(4), 142-146.

Engle, R. E. (2006). Framing interactions to foster generative learning: A situative explanation of transfer in a community of learners classroom. *The Journal of the Learning Sciences, 15*(4), 451-498.

Fink, D. (2003). *Creating significant learning experiences: An integrated approach to designing college courses.* Hoboken, NJ: Jossey Bass/Wiley.

Halpern, D. & Hakel, M. (2003, August). Applying the science of learning. *Change,* 36-41.

Marini, A. and Genereux, R. (1995). In *Teaching for Transfer: Fostering Generalization in Learning.* (eds, McKeough, A., Lupart, J. and Marini, A.) Lawrence Erlbaum Associates, Mahwah, NJ, pp. 1–20.

McCombs, B. & Marzano, R. J. (1990). Putting the self in self-regulated learning: The self as agent in integrating will and skill. *Educational Psychologist*, *25*, 51-69.

McKeough, A., Lupart, J., & Marini, A. (Eds.). (1995). *Teaching for transfer*: *Fostering generalizations in learning*. Mahwah, NJ: Erlbaum.

McNeese, M. D. (2000). Socio-cognitive factors in the acquisition and transfer of knowledge. *Cognition, Technology, and Work*, *2*, 164-177.

Mestre, J. (2002). Transfer of learning: Issues and research agenda. *LSC Net.* Retrieved September 10, 2003 from http://lsc-net.terc.edu/do.cfm/paper/11553/show/use_set -library.

Michelson, L., Knight, A., & Fink, D. (2004). *Team based learning: A transformative use of small groups in college teaching.* Sterling, VA: Stylus Publishing.

Nilson, L. (2003). *Teaching at its best: A research-based resource for college instructors*. Bolton, MA: Anker Publishing.

Pea, R. D. (1987). Socializing the knowledge transfer problem. *International Journal of Educational Research, 11*, 639-663.

Pressley, M., Van Etten, S., & Freebern, G. (1998). The metacognition of college studentship: A grounded theory approach. In D. Hacker, J. Dunlosky, & A. Graesser, (Eds.), *Metacognition in educational theory and practice* (pp. 347-66). New Jersey: LEA.

Salomon, G. & Perkins, D. (1989). Rocky roads to transfer: Rethinking mechanisms of a neglected phenomenon. *Educational Psychologist*, *24*(2), 113-142.

Sherman, T. M. (1985). Learning improvement programs: A review of controllable influences. *The Journal of Higher Education, 56*(1), 85-100.

Winne, P. & Hadwin, A. (1998). Studying as self-regulated learning. In D. Hacker, J. Dunlosky, & A. Graesser (Eds.), *Metacognition in educational theory and practice* (pp. 277-304). New Jersey: LEA.

Zimmerman, B. J. & Kitsantas, A. (2002). Acquiring writing revision and self-regulatory skill through observation and emulation. *Journal of Educational Psychology, 94,* 660-668.

Robin Lightner received her doctorate in Psychology at the University of Kentucky and has been working at the University of Cincinnati since 2001. She is currently the co-director of the Raymond Walters College learning and teaching center. Dr. Lightner teaches Intro Psych, Social Psychology, and Personality Theories.

Ruth Benander received her doctorate from the University of Pennyslvania and has been teaching at the University of Cincinnati since 1996. She was the co-director of the Raymond Walters College learning and teaching center from 2000-2006. Dr. Benander teaches English Composition and Post-colonial literature at the under-graduate level.

Eugene Kramer has been a faculty member at the University of Cincinnati since 2000, and is currently pursuing his doctorate. He teaches Algebra and Calculus and has participated in a number of faculty learning communities.

Student Perceptions of Learner-Centered Teaching

DeDe Wohlfarth, PsyD
Associate Professor, Department of Psychology
Spalding University

Daniel Sheras, MA
Jessica L. Bennett, MA
Bethany Simon, BA
Jody H. Pimentel, MS
Laura E. Gabel, MA
Graduate Students, Department of Psychology
Spalding University

The learner-centered paradigm departs from traditional teaching models by focusing on students more than teachers and learning more than teaching. Thus, classes are more egalitarian; they emphasize critical thinking, active learning, and real-world assignments. Graduate students in learner-centered classrooms were surveyed about perceptions of their experiences in relation to the key dimensions of the learner-centered paradigm and noted that the approach contributed to their feeling respected as learners, developed their critical thinking skills, and encouraged their self-directedness. Based on these findings, post-secondary instructors are encouraged to experiment with learning-centered approaches to further explore this promising model.

"Education is not filling a bucket but lighting a fire."
-William Butler

Introduction: Context for Learner-Centered Teaching

Learner-centered teaching (Bilimoria & Wheeler, 1995; Weimer, 2002) represents a paradigm shift from traditional teaching methods by focusing on how students learn instead of how teachers teach. Thus, the model's conceptual underpinning is rooted in learning, challenging us to ask the rarely heard question, "How can I improve my students' learning?" instead of the often asked "How can I improve my teaching?" (Weimer, 2002). Weimer outlines the key premises of learner-centered teaching as:

1) Assume that students are capable learners who will blossom as power shifts to a more egalitarian classroom.
2) Use content not as a collection of isolated facts, but as a way for students to critically think about the big questions in the field.
3) Change the role of teacher from sole authoritarian to fellow traveler in search of knowledge.
4) Return the responsibility for learning to the students, so that they can understand their learning strengths and weaknesses and feel self-directed in their knowledge quest.
5) Utilize assessment measures not just to assign grades, but as our most effective tools to promote learning.

The result of this paradigm shift is that teachers become co-learners with students, thus blurring the categorical distinction between these two groups. The broad learner-centered paradigm encapsulates our current understanding of the "best practices" in teaching, including an emphasis on active learning (McKeachie & Svinicki, 2006; Thompson, Licklider, & Jungst, 2003), problem-based learning (Blumberg, 2007) and, more generally, a thoughtful understanding of what the best teachers actually do in their classrooms (Bain, 2004). Of particular relevance to the

present discussion, Bain notes that excellent teachers foster critical thinking, have a strong trust in students, and are life-long learners themselves.

In response to the learner-centered movement, we have exchanged copious lecture notes and multi-bullet point slides for a more active, engaging, collaborative style of teaching. Perhaps we have recognized that our technology, and our focus on content over thinking, has eroded much of what appealed to us as teachers in the first place. That is, we became teachers to make a difference in students' lives, and as a socially sanctioned way to shape the values, questions, and thinking of the next generation (Palmer, 1998). Learner-centered teaching involves connecting with knowledge and students *at the same time*. We intuitively recognize those rare teaching moments when great things are happening in our classroom because we are learning and thinking with our students. Furthermore, when students become lifelong learners by developing their critical thinking skills and self-management abilities, they are more likely to have success in the post-college "real world" than if they were merely phenomenal multiple-choice test takers.

Learner-centered teaching involves connecting with knowledge and students *at the same time*.

Indeed, adopting a learner-centered perspective, with its emphasis on trusting students and loosening our grip on content-driven lectures, is challenging. It requires students and professors alike to embrace its inherent contradictions and paradoxes, including being both a facilitator and an evaluator and being both a learner and a teacher (Robertson, 2005). At times, learner-centered teaching demands us to join the students on their learning journey while simultaneously requiring us to grade their work and evaluate their performance. The degree to which we can live with these tensions is affected not only by our teaching orientation, but also where we are in our own teaching/learning journey and how well we orient students to our new paradigm (Daley, 2003; Mezeske, 2004). As Ramsey and Fitzgibbons (2005) thoughtfully suggest, learner-centered teaching requires us to move along a continuum beyond "doing something to students" (teaching) to "doing something with students" (teaching and learning) to "being with students" (learning). Even more challenging is moving seamlessly back and forth along this continuum within single class periods, intuitively recognizing what learners need from us in the moment.

Although the learner-centered paradigm has become the new buzzword in the field, empirical support is needed to move the paradigm from a passing trend to a conceptual pillar of scholarship of teaching and learning. Several researchers have explored learner-centered concepts with promising early results. For example, Wells and Jones (2005) examined how teaching informational systems development to students was improved by using a more collaborative, mentoring style of teaching instead of a traditional lecture-based style. They utilized small work groups, personal work portfolios, and student-driven classroom experiences, and reported higher grades among students in the more collaborative classrooms. They also suggest that students learned less measurable but still important skills, such as the ability to work collaboratively and take responsibility for their learning.

Additional support for a learner-centered paradigm comes from Steckol (2007), who assessed how using formative assessment, a component of learner-centered teaching, enhanced student learning. The formative assessment tools utilized included one-minute papers to summarize class material and student-generated quizzes. Steckol noted that students in the learning-centered section of the class scored significantly better on the final exam than those in the control group.

Despite promising early findings, empirical support for learning-centered models is in its infancy. Data regarding its usefulness, relevance, and effect on student learning is minimal. A key perspective in understanding the impact of a learner-centered model is through the eyes of students. The learner-centered model focuses on student learning instead of instructor teaching; furthermore, the model

shifts the balance of power in the classroom to the students. Thus, collecting data from a student perspective is consistent with a learner-centered philosophy, in which students *do something* instead of *having something done to them*. The goal of this paper is to increase understanding of learner-centered teaching through a student perspective and add to the body of knowledge so that teachers can better implement this model.

Methods

Subjects in the current study (n= 21) were enrolled in a graduate psychology program at a small liberal arts school in the southeastern United States. The learner-centered classes were taught by one professor but spanned two courses during the 2007-2008 academic year. The courses included an introduction to counseling course (1st year graduate students) and a child psychopathology course (primarily 3rd year graduate students). The students in both classes were told that their courses would be taught in a learner-centered style, and this term was explained to them, including describing Weimer's five tenets outlined in this text.

Although learner-centered ideals focus on less-quantifiable concepts of relationships and trust, the following adjustments were also made to the course design to reflect a learner-centered philosophy:

- Classroom activities focused less on prepared lectures and more on student-driven questions and discussion about the reading. Several classes reflected problem-based learning, in that a complex clinical case from one student was the basis for the class discussion. Thus, a "typical" class period might have included an experiential group activity related to the topic; processing of this activity; each student sharing the topic s/he would most like to discuss in relation to the reading; the professor and students jointly deciding how to focus the group discussion from this list of possibilities; and mini-lecturettes from the professor punctuating the discussion. At the end of class, students were asked to summarize key ideas and the relevance of their learning today to their work and lives. Alternatively, an entire classroom period might have been spent struggling with a student-generated clinical case, discussing the diagnostic, clinical, and ethical implications of course of treatment.
- Multiple-choice quizzes, which primarily tapped students' memorization skills, were replaced with weekly homework assignments, in which students were asked to apply, integrate, or evaluate the assigned reading. These homework assignments might include integrating ideas from this class with another class; applying key ideas to an actual clinical case; or doing related research by reading and summarizing a related article to the homework.
- All professors' notes were available to students via Blackboard prior to classes. Furthermore, students were also provided with the quizzes they would have taken were they not in a learner-centered class.
- Students determined the content of their research papers and were invited to turn in as many drafts of their papers as they desired, receiving formative, but not evaluative, feedback on each draft.
- Students chose their own assignments from a possible portfolio of options. They were also encouraged to develop their own assignments to replace instructor suggestions.
- Students chose their own due dates for assignments, within certain parameters to allow for thoughtful feedback from the instructor.
- Students were asked to write an end-of-semester self-assessment, focusing on their learning strengths/weaknesses, their assessment of the type and depth of learning in the class, and what they believed their final grade should be. This paper demanded a high level of student reflective thinking.

At the end of the semester, data was collected through anonymous supplemental student course evaluations that were based on the work of Brookfield (1995). This evaluation form asked students when they felt most engaged/disengaged in the class, what hindered/helped their learning; their perceptions of the instructor's strengths and weaknesses; and the most important skills, attitudes, and concepts they learned. An additional evaluation form was created to assess the five tenets of learner-centered classrooms, as described by Weimer (2002). This form asked students to complete two Likert scales regarding 1) the extent to which each of the five tenets occurred (on a scale of 1-5) and 2) how important this change was to their learning (on a scale of 1-5). They also had the opportunity to comment about their perceptions of the class, including how (or if) the learner-centered components contributed to their learning, and strengths and challenges of the paradigm.

Results and Discussion

In examining the first of Weimer's tenets, that *power should be returned to students as they are capable learners* who will blossom in an egalitarian classroom, the response from students on the supplemental course evaluations was unanimously positive. In terms of students' perceptions of the extent to which the power of the classroom was returned to them, 71.4% of students noted that this occurred "very" often ("4" on Likert scale) and 86% of students noted that this shift in the balance of power was either "very" or "unbelievably" important to their learning. Qualitative data further supported that students perceived that they were being respected as fellow co-learners in the search for knowledge, as epitomized by the following quote:

- "I have truly enjoyed this class, and the way it was designed as a learner-centered experience. I feel that it was the first time I was treated as a competent and intelligent person who could be trusted with her learning experience."

In understanding the implications of these findings, it seems that students can perceive whether professors inherently trust them, and that they predominately respond to this trust in a positive way.

Weimer's second tenet of learner-centered classrooms is that *content is used as a vehicle to promote critical thinking* about conceptual questions underlying the field, instead of as isolated facts to be memorized. Interestingly, 100% of students responding noted that this focus on deeper critical thinking skills, such as integration, application, and evaluation, instead of an emphasis on memorization, did occur. All students responding (100%) noted that this shift was "very" or "unbelievably" important to their learning. Again, students were markedly positive in their responses:

- "Generally, I believe the learner-centered style of teaching is more helpful to me than traditional lecture-style instruction. I believe that I learn best when there is some, but not an overwhelming amount, of structure. In lecture-style classrooms, I absorb some information and I may answer or may not ask a question, but the most important and useful learning comes from being pushed to critically think about the information. This simply does not occur in lecture focused classrooms."

- "I learn best when I can find personal significance in the material I am studying. In other words, I need to view information not just as a bunch of facts, but also as whole concepts. This class, for the most part, highly stimulated my learning style. For me, class discussions were helpful because it helped me synthesize information and gave relevance to the topics."

These findings imply that students are not only capable of deeper levels of critical thinking, but understand when such thinking is happening as compared to lower level thinking skills such as memorization. No students surveyed were frustrated by a loss of content covered, despite professors often expressing concerns about reducing the amount of content covered as one of the stumbling blocks to adopting a learner-centered paradigm (Weimer, 2002).

Regarding Weimer's third tenet, that *a more egalitarian classroom is established* and that professors are seen as fellow travelers on a learning journey, working alongside of students instead of delivering nuggets of knowledge from the academic mountaintop, 97.9% of students felt that an egalitarian classroom had developed and a similar percentage (92.5%) felt that this shift was critical to their learning.

- "I really appreciate that from the first moment of class, and throughout the entire semester, you set up a comfortable learning environment. This makes such a huge difference in a class!"
- "This class has been quite a departure from the teaching style that I have had in the past…and I thoroughly enjoyed it. I like the fact that we were able…to say what we wanted without the fear of being terribly wrong or shunned by the professor."
- "Your comments on my papers made me feel like each week that you and I had our own personal discussion on the topic."

However, some remnants of the older teaching-centered paradigm remain for students, as noted by the following comment:

- "There were a few times when my views on things differed than yours. This was probably the only time that I felt nervous about talking. I guess, even in this round-table like classroom setting, I still view you as the head."

This comment likely reflects the difficulty some students have in adjusting to a more egalitarian classroom, even when they are primed for such a change and encouraged throughout the semester to find their own voices and challenge the professor. The optimum behavior in a learner-centered classroom is, in many ways, a stark contrast to much of the behavior encouraged by traditional classrooms, where students are passive note takers, unquestioning receivers of knowledge from an expert. It seems that students are hungry for the changes brought about by learner-centered teaching, but that adjusting to them can be somewhat difficult and create some anxiety. In general, however, students are able to perceive and articulate what an egalitarian classroom looks like, perhaps from the very first class session.

The optimum behavior in a learner-centered classroom is, in many ways, a stark contrast to much of the behavior encouraged by traditional classrooms, where students are passive note takers, unquestioning receivers of knowledge from an expert.

In learner-centered classrooms, as Weimer notes in her fourth tenet, *the control of learning is returned to the student* so that students determine the timing of their assignments and become acquainted with their own learning style so as to better self-assess their learning. 90.5% of students agreed that this change had happened in their learner-centered classrooms, and 90.4% of students believed that being self-directed in their learning was important for them. Students' comments again support that they were positive about this change, although with some trepidation:

- "The learner centered style of class was very different from what I have experienced in other classes. I was not sure how I would like it because so much of the responsibility was on me to make sure that I did everything on time without reminders from professor along the way. But it worked!"
- "I have somewhat mixed feelings about learner-centered teaching. This may partly be due to the ingrained style of learning that I

have used for so long. Up until this point, I have almost always had some sort of quiz or test to assess my understanding of information. And I like it when professors provide a lot of structure because that puts me in my comfort zone of knowing exactly what to do. By creating less structured assignments, there was more responsibility on me to figure out what was appropriate. As anxiety-provoking as this initially was, I think that it is a realistic representation of what our jobs and professions will someday be like."

- "Being able to determine when I wanted to turn in assignments as opposed to being told when these assignments were due was an incredible stress reducer… Being encouraged to hand in rough drafts expressed to me that the essay assignments were not about a grade, rather a learning experience."

In understanding the implications of these results, students do seem to initially struggle with the simultaneous freedom and responsibility inherent in a learner-centered model, perhaps mirroring what many first-year college students feel. But if such responsibility is balanced by large measures of support, as is apparent when students feel trusted, they respond well to the challenge.

Weimer's fifth tenet is critical: that *assessment measures contribute to student learning and not just towards establishing a grade* for individual students. Regarding the extent to which this happened, 100% of students agreed that assessment measures did contribute to student learning and 95.3% felt that this change was important to their learning. Again, students' comments were mostly positive in regard to how assessment measures were used, although some students noted some struggles in adapting to a different way of measuring learning:

- "I sometimes viewed the flexible method of homework as a loophole to high accountability (however, I suppose this final self-assessment of learning is holding me accountable!)"
- "The homework assignments changed the way I read. Rather than reading to memorize facts or lists, I thought about bigger questions. Instead of narrowing my focus by reading, I was expanding it. This allowed me to critically think about the articles we read, rather than just memorizing information for a quiz. For me, this fostered a sense of evaluating our reading rather than accepting it…When reading exclusively for a quiz, I tend to remember isolated facts rather than larger concepts from the text. Additionally, the information does not necessarily stay committed to memory for very long."
- "In all honesty, I read the assignments twice when in preparation for my reflection papers, where I would only read once and then re-scan to prepare for quizzes. It seems counterintuitive, but I spent more time reading the assignments after we stopped taking quizzes than I did before."

Somewhat ironically, students worked *harder* and *smarter* when less emphasis was placed on grades, pop quizzes, and memorization. These results help abate a fear associated with learner-centered thinking: that students won't learn unless we use giant sticks, in the form of "points", to prod them into working. Instead, they worked even harder when they were working for carrots: specific, timely feedback from the professor and earning greater amounts of trust.

Somewhat ironically, students worked *harder* and *smarter* when less emphasis was placed on grades, pop quizzes, and memorization.

Overall, judging by these students' perceptions, learner-centered teaching does seem to offer some potential as a pedagogical style which helps promote

critical thinking and assist students in becoming life-long learners. But students did have some concerns about shifting to an entirely learner-centered paradigm, particularly with regard to what happens in the classroom hour itself. Several students suggested that the optimal method to encourage their learning was a blend of traditional teaching and more learner-centered concepts, noting some frustration with class discussions and a desire for some organization and emphasis on key concepts to ensure that they did not get lost:

- "My conclusion about learner-centered teaching is that both teacher-centered and learner-centered styles have positives and negatives. I do feel like I 'got' more out of the critical thinking (learner-centered) approach because I had to take control of my learning. Overall, I think I did better with the balance of lecture and discussion that we found towards the middle of the semester."
- "I find it interesting that the freedom of the discussions that was so powerful was also their weakness."

In understanding these and other student comments, it seems that a balance between traditional teaching methods and learner-centered teaching may indeed be the intellectual "sweet spot" for students in that professors retain enough control of the classroom to organize key concepts for students in a meaningful way, even if this means thoughtfully reining in student discussions at times.

Conclusions and Future Directions

In summarizing the overall findings, graduate students in learning-centered classrooms agreed that their classroom experiences were indeed learner-centered, as described by Weimer (2002). Furthermore, they noted that the paradigm changes they experienced were extremely important in helping them learn. Qualitative data collected, in the form of student quotes, strongly supported the move to a learner-centered paradigm as a positive shift. However, students also note some frustration with not having the skills to flourish in a learner-centered environment, including struggling to participate in focused discussions about the assigned reading and in holding themselves accountable for assignments, although they clearly see the importance of developing these skills. Students also perceive that the professor should retain more control of the classroom experience itself so that critical concepts did not get lost. It may be that a learner-centered attitude, learner-centered relationships, and a learner-centered course design structure (e.g. multiple drafts of papers, formative assessment, low stakes assignments, in-depth homework assignments instead of quizzes/tests) best complements a quasi-learner-centered style in the classroom, in which the professor retains relatively more power in controlling the learning experiences, discussions, and small group work of students.

It may be that a learner-centered attitude, learner-centered relationships, and a learner-centered course design structure best complements a quasi-learner-centered style in the classroom, in which the professor retains relatively more power in controlling the learning experiences, discussions, and small group work of students.

Future research is needed to definitively answer some of the questions about learner-centered teaching. Like all work in the field of scholarship of teaching and learning, one must be cautious in generalizing results due to the limited scope of the experiences of a few select classes led by a single teacher. Studies are needed with larger sample sizes and multiple professors across academic subjects to determine if variations exist within these variables. Undergraduate compared to graduate student responses may also differ in terms of their perceptions of learner-centered teaching. Additionally, quasi-experiments in real-world classrooms, which set up two different conditions of learning (one learning-centered and one more traditional) will help answer questions about the impact of learner-centered teaching

on students' perceptions of learning, actual content knowledge learned, and the students' depth of thinking about and understanding of the conceptual underpinnings of their chosen field.

References

Bain, K. (2004). *What the best college teachers do*. Cambridge, MA: Harvard University Press.

Bilimoria, D. & Wheeler, J.V. (1995). Learning-centered education: a guide to resources and implementation. *Journal of Management Education*, *29*(3), 402-428.

Blumberg, P. (2007). Problem-based learning: a prototypical example of learning-centered teaching. *Journal of Student Centered Learning, 3*(2), 111-125.

Brookfield, S. D. (1995). *Becoming a critically reflective teacher*. San Francisco, CA: Jossey-Bass.

Daley, B. J. (2003). A case for learner-centered teaching and learning. *New Directions for Adult and Continuing Education*, *98*, 23-30.

McKeachie, W.J. & Svinicki, M. (2006). *McKeachie's teaching tips*. Boston, MA: Houghton Mifflin Company.

Mezekse, B. (2004). Shifting paradigms? Don't forget to tell your students. *The Teaching Professor*, *18*(7), 1.

Palmer, P. (1998). *The courage to teach*. San Francisco, CA: Jossey-Bass.

Ramsey, V. J. & Fitzgibbons, D.E. (2005). Being in the classroom. *Journal of Management Education*, *29*(2), 333-356.

Robertson, D.R. (2005). Generative paradox in learner-centered college teaching. *Innovation Higher Education, 29*(3), 181-194.

Steckol, K. F. (2007). Learner-centered teaching in higher education: formative assessment study turns classroom into research lab. *The ASHA Leader*, *12*(5), 14-15.

Thompson, J., Licklider, B., & Jungst, S. (2003). Learner-centered teaching: Postsecondary strategies that promote "thinking like a professional". *Theory into Practice, 42*(2), 133-141.

Weimer, M. (2002). *Learner-centered teaching: five key changes to practice.* San Francisco, CA: Jossey-Bass.

Wells, M.A. & Jones, B. D. (2005). Commonsense ISD: an empirical approach to teaching systems analysis and design. *Conferences in Research and Practice in Information Technology*, 42.

DeDe Wohlfarth is a tenured Associate Professor at Spalding University in the School of Professional Psychology. She has twice won a Kentuckiana Metroversity Award for teaching excellence and has presented at the International Lilly Conference on College Teaching. Her research interests include the scholarship of teaching and learner-centered teaching.

Daniel Sheras, Jess Bennett, Bethany Simon, Jody Pimentel and Laura Gabel are doctoral students in clinical psychology at Spalding University; all are interested in SOTL theory, research, and practice. They are part of a student-teacher collaborative research group collecting qualitative data on learner-centered teaching approaches.

Impact of Journaling on Students' Self-Efficacy and Locus of Control

Krista K. Fritson, PsyD
Assistant Professor, Department of Psychology
University of Nebraska at Kearney

While considerable research has examined the academic and cognitive value of journaling, little has examined the psychological impact of journaling on the personal development of college students. Research on cognitive-behavioral therapy indicates that journaling can have a positive impact on individuals' self-growth and intrapersonal characteristics. The purpose of this study is to examine the impact of classroom-based journaling on students' self-efficacy and locus of control. Students in two undergraduate courses were required to complete weekly journal assignments; one class received targeted information on cognitive-behavioral therapy (CBT) and one class did not. Students completed pre-, mid-, and post-course assessments on self-efficacy, locus of control, and learning. Results revealed that self-efficacy scores for both groups significantly improved after the early journaling assignments; however, there were no differences between those who received direct CBT instruction and those who did not. These findings indicate that journaling may have important psychological benefits above and beyond its expected academic and cognitive outcomes.

While post-secondary educators frequently implement new teaching strategies to improve their students' academic development, less attention has been devoted to understanding how academic activities influence students intrapersonally. Research in cognitive-behavioral therapy (CBT) reveals a variety of strategies and techniques that positively impact self-efficacy, locus of control and other psychological characteristics, although little information exists on the value of CBT strategies for non-clinical populations. This study seeks to apply the empirical findings from psychological research to examine the value of journaling, a popular CBT technique, on students' self-efficacy and locus of control.

While post-secondary educators frequently implement new teaching strategies to improve their students' academic development, less attention has been devoted to understanding how academic activities influence students intrapersonally.

Traditional post-secondary education is designed to enhance student engagement, promote content learning, encourage critical thinking, and increase students' intellectual growth. Many instructors aim to achieve these academic goals while simultaneously attempting to foster students' intrapersonal growth, self-reflection and personal insight. However, it is particularly challenging to design course assignments and activities that effectively address both the academic and psychological goals. Borrowing from research in clinical psychology, CBT strategies may provide a means of simultaneously encouraging advanced content knowledge and increased self-reflection. While there are a variety of effective CBT techniques, the current study focuses on the value of journaling due to the widespread use of journaling as an accepted academic strategy.

In clinical studies, journaling is often used to promote self-introspection, reflection, and change in the client's perceptions, behaviors and cognitions. Similarly, journaling is seen as a viable tool in academia to promote reflection on and articulation of students' thinking and problem solving strategies (Fogarty & McTighe, 1993), to support students in effectively acquiring and transferring cognitive and metacognitive skills (Perkins, Simmons, & Tishman, 1990), and to assist students in identifying and analyzing their deficits while improving problem-solving skill strategies (Clarke, Waywood, & Stephens, 1993). Academic journaling

typically takes the form of dialogue or reflective narrative. Reflective journaling requires students to reflect on course information and their perceptions of the information, critically analyze information, and/or share how practical or field experiences relate to course information or life applications. Proponents of academic journaling believe that it is a non-traditional way for students to ground their personal experiences such as those in field or practicum experiences into course information, allows students to improve their writing skills, and promotes critical thinking for students (O'Connell & Dyment, 2006). Current research by Dunlap (2006) also supports guided reflective journaling as a means to recognize students' changing perceptions as information is learned.

The specific nature of journaling assignments varies, depending on the academic setting. Journaling can be unstructured, allowing students to reflect on self-identified information from a course or experience. Conversely, journaling may be very structured with the instructor identifying specific topics and objectives related to students' journals. Regardless of the style of journaling, the primary aim is to have students contemplate and integrate information from courses to real-life experiences, promote critical thinking, and communicate their perceptions/experiences in a written manner.

In CBT, journaling may take many forms and is used as a means to assist clients in becoming more aware of their harmful behavior, establishing healthier coping skills, and incorporating change into their lives. Clients may be required to identify specific thoughts, their resultant feelings and behaviors, and journal about the impact of altering their thoughts. By using such strategies, individuals actively alter their behavior in attempt to improve their personal perspectives, mood, and daily functioning (Beck & Beck, 1995). Significant research supports cognitive strategies such as journaling improve mood and functioning of depressed and anxious individuals (Nicholas, 2006). Journaling has been shown to improve clients' self-awareness, promote active reflection on clients' selves and make changes in clients' thoughts, perceptions, behaviors, and mood.

Self-efficacy and locus of control are two constructs associated with CBT strategies that may be involved in changing individuals' thoughts, behaviors, and emotions. Self-efficacy refers to individuals' personal belief about their ability to initiate, persist in, and be successful in behavior (Bandura, 1977, 1982, 1997). Self-efficacy has been shown to be an accurate predictor of success in a range of behaviors from smoking cessation to athletic endeavors to academic performance (Manstead & Van-Eekelen, 1998; Sadri & Robertson, 1993; Stajkovic & Luthans, 1998). There is an established correlation between individuals' self-efficacy and their willingness to engage in and be successful in differing areas of life functioning (Bandura, 1997). Bandura recognized individuals' self-esteem, as well as how they attribute blame or credit, impacted their self-efficacy and engaging behaviors. Since self-esteem and attribution of events are also associated with mood and anxiety, it follows that they could be involved in changes that might occur in thoughts, behavior, and moods of students as a result of cognitive-behavioral information and activities.

Self-efficacy and locus of control are essential components for student success in an academic setting.

Locus of control refers to individuals' perceptions about the underlying main causes of events in their lives (Rotter, 1966). Rotter believes locus of control is an important component to individuals' personality and largely predicts whether they attribute success and failure to things within their control or to external entities. According to Rotter, individuals typically fall on a continuum in their beliefs about what causes their actions. Individuals with a primarily internal locus of control believe that their own behavior drives their destiny; conversely, individuals with a primarily external locus of control believe that external forces are largely responsible for one's fate. As with self-efficacy, cognitive-behavioral strategies are believed to correlate with potential changes in individuals' locus of control.

Self-efficacy and locus of control are essential components for student success in an academic setting. Improving students' self-efficacy enhances their ability to initiate, persist, and succeed with classroom activities; likewise, encouraging an internal locus of control helps to ensure that students take active responsibility for their learning. Thus, anything that faculty can do to facilitate learners' personal growth on these dimensions should translate into improved classroom performance and content-mastery.

Current Investigation

The aim of the present study is to investigate the impact of journaling on students' self-efficacy and locus of control. In addition, due to the academic context of the assignments, the study will also examine the impact of journaling on student learning and students' perceptions of the instructor and course. Because the existing literature on the psychological impact of journaling stems from research in CBT, it is important to examine whether any psychological benefits of journaling are due to the simple process of self-reflection inherent in journaling activities or if there is something unique about CBT approaches to the journaling process. As such, the current study will compare the impact of journaling assignments where students were given explicit instruction in CBT versus journaling assignments where students had no explicit CBT instructions. It is hypothesized that participants who apply cognitive-behavioral strategies via journaling assignments will show enhanced self-efficacy, internal locus of control, academic success, and perceptions of the instructor and course when compared to the students who journal without cognitive-behavioral directions.

Method

Participants

The participants are 41 psychology student volunteers ranging in age from 19 to 44 years (29 females, 12 males, Age *M* = 21.3, *SD* = 4.11) from a public, mid-western university. Participants are all enrolled in one of two introductory level *Abnormal Behavior and Society* classes taught by the same instructor.

Each class was randomly assigned to either the CBT journaling or non-CBT journaling condition. The CBT journaling condition included 25 students (17 females, 8 males, mean age = 20.9) who completed weekly written journals applying targeted cognitive-behavioral strategies to their personal experiences. One new cognitive-behavioral strategy was introduced and discussed for approximately 10 minutes each week throughout the semester. The non-CBT journaling condition included 16 students (12 females, 4 males, mean age = 21.8) who completed weekly journals pertaining to any topic from the course textbook or class discussions. No cognitive-behavioral strategies were introduced or discussed beyond what is normally in the course.

Materials

All participants independently completed the following measures at the beginning of the course, midterm and end of the semester:

- *Demographics Form.* The demographic form included information on age, gender, academic year and GPA, college major, and estimated times they planned to study or studied for quizzes and exams for the course.
- *Self-Efficacy Questionnaire (SEQ).* The SEQ is a 23-question measure used to assess individuals' self-efficacy regarding their personal belief about their ability to initiate and persist in behavior (Sherer et al., 1982). This scale was established to measure individuals' General Self-Efficacy and individuals' Social Self-Efficacy. The 23 questions are answered on a 14-point Likert Scale.

- *Locus of Control Scale*. The Locus of Control Scale is a 10-item questionnaire used to measure whether individuals perceive themselves as having a more external or internal locus of control. It was developed by Rotter (1971) to assess individuals' beliefs that their destiny is controlled by themselves (internal) or factors outside of themselves (external).
- *Grades.* Participants/students final percentage grade for the course was used as the measure of academic outcome.
- *Perception of Professor Form*. This questionnaire included 10 questions on a 5-point Likert Scale to assess individuals' perception of their professor. This form was administered at mid-term and the end of the semester.
- *Course/Professor Evaluation Form*. This questionnaire included 15 questions on a 5-point Likert Scale to assess individuals' evaluation of the course and professor's performance. This form was administered at mid-term and the end of the semester.
- *Cognitive-Behavioral Education/Discussion*. Each week, the CBT journaling students were introduced to one new cognitive-behavioral strategy and given an assignment to journal regarding that concept and explain at least two real life examples of its use during their lives. Refer to Appendix A for examples of the cognitive-behavioral strategies introduced in the course. Students were encouraged to apply the concept to their current life situation, though they had the freedom to conceptualize regarding any life experiences. The length of the journal assignment was at least three quarters of a page. The journal assignments were due the following week when the instructor would reiterate the concept, then teach a new cognitive-behavioral strategy. Each assignment was included in the students' grade; credit was awarded on a completion-only basis. Refer to Appendix B for an example of the journal assignments for the CBT journaling group. The non-CBT journal students were asked to write an equivalent journal entry regarding any class or text topic for the week. These assignments were assigned and submitted in the same fashion as the CBT journaling condition. Refer to Appendix C for an example of the journal assignments for the non-CBT journal group.

Procedure

A brief description of the study was given at the beginning of the class. All participants from both conditions then completed the packet of questionnaires including the above-described measures minus the *Perception of Professor Form* and the *Course/Professor Evaluation Form* (since the participants had not had adequate time to evaluate those factors). The two classes were then taught using the same text, syllabus, curriculum, and lecture-discussion format. The only difference between the two classes was in the nature of the journal activities; the CBT journaling class received the 10 minute weekly discussion on cognitive-behavioral strategies along with the journal assignment, while the non-CBT journaling class received only the journal assignment. At midterm and the end of the semester, all participants completed the packet of questionnaires again, now including the *Perception of Professor Form* and the *Course/Professor Evaluation Form.* The students were then debriefed regarding the research project.

Results

A 2 X 3 mixed–design ANOVA was calculated to examine the effects of journaling (CBT or non-CBT) and time (beginning of course, midterm and end of course) on Self-Efficacy. The main effect for time was significant ($F(1, 39) = 82.89$, $p < .001$), but the main effect for type of journaling was not significant ($F(1, 39) = .006$, *n.s.*). The interaction between type of journaling and timing was not significant ($F(1, 39) = 2.51$, *n.s.*). For the main effect of time, a repeated measures

ANOVA indicated that the significant change occurred from the beginning of the semester to the midterm test regarding Self-Efficacy $F(1, 39) = 104.65$, $p < .01$. The results of the ANOVA indicated no significant differences between the midterm and end-of-semester measures $F(1, 39) = 3.18$, *n.s.* These results indicate that there was significant positive change in self-efficacy in all participants in the study, regardless of the type of journaling. Further, the results show the change was most significant at midterm, and there was not a significant change in self-efficacy between the midterm and end of the semester.

Additional ANOVAs examining the impact of journaling (CBT or non-CBT) by timing (beginning, midterm and end of the semester) on locus of control, perception of the instructor, course evaluation, and grades did not show any significant differences between groups or time.

Discussion

The results indicate that all students showed significant improvement in self-efficacy, regardless of the type of journaling they engaged in. Specifically, the data suggest that all students' self-efficacy improved from the beginning of the course to the midterm, regardless of whether or not they received additional information on cognitive-behavioral techniques. These results do not support the hypothesis that students completing cognitive-behavioral instruction and journaling would show improvements in self-efficacy over journaling without specific CBT information.

These findings suggest that journaling, regardless of the nature of the journal, may have positively impacted students' self-efficacy. Given that previous research indicates reflective journaling is an effective way to impact students' problem-solving, thought articulation, and exploration of metacognition (Dunlap, 2006), this study suggests journaling may play a significant role in affecting students' self-efficacy. However, as is the nature of classroom-based research, the relationship between journaling and self-efficacy may be clouded by other instructional variables such as instructor style or course content.

These findings suggest that journaling, regardless of the nature of the journal, may have positively impacted students' self-efficacy.

Other results exploring students' locus of control, grades, perception of the instructor, attendance, and course evaluation did not support the hypotheses that individuals receiving the cognitive-behavioral education and journaling would demonstrate significantly better scores than the students not receiving the CBT assignments. In contrast, the journaling implemented in this course did not have an impact on any of these factors. It is important to note that the current study did not implement a pure control condition (in which there was no journaling), so it is still unclear on the overall impact of journaling on these dimensions.

It is important to note that the findings from this pilot study should serve as a basis for ongoing research into the psychological impact of academic journaling rather than a conclusive finding on the role of journaling in college classrooms. Because this study was conducted within the constraints of a live classroom, the study balanced experimental control with the demands of the classroom. Future research should isolate variables such as instructor, course content and journaling in an attempt to replicate the findings and/or identify which variables may have accounted for the change in students' self-efficacy. Exploration of the timeline in which the change in self-efficacy occurred could also be included in future studies.

Self-efficacy research strongly indicates that self-efficacy is a good predictor of successful task completion, correlates with levels of performance, and is related to self-esteem (Manstead & Van-Eekelen, 1998; Sadri & Robertson, 1993; Stajkovic & Luthans, 1998). Given the potential positive ramifications of improving students' self-esteem, the incorporation of journaling in the college classroom may provide students with far-reaching benefits beyond simple mastery of course

content. The psychological value of journaling mandates further study regarding how journaling and teaching variables impact students' intrapersonal characteristics.

Though this pilot study is based in psychology, the value of the findings is relevant to all disciplines. While all faculty actively promote content mastery, it can be argued that we should also focus on the intrapersonal and psychological growth of our students. As indicated by this study, academic journaling may be one means of simultaneously fostering the academic and psychological growth of students. Virtually all disciplines can incorporate journaling into the curriculum to improve academic variables as well as positively impact self-efficacy. To effectively utilize journaling to encourage students' intrapersonal growth, students' journal assignments should include the following aspects:

1. Identify a life experience/situation which exemplifies a concept from their text/course material
2. Reflect on various perspectives when a new concept or idea is introduced
3. Consider a perspective opposite of what they truly believe regarding a particular concept or matter

Instructors should allow students flexibility while still providing structure to promote critical thinking and self-exploration. This study's findings provide an opportunity for a range of disciplines within higher education to positively impact students' academic needs, critical thinking skills, and intrapersonal attitudes/beliefs that promote success in life functioning.

References

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84,* 191-215.

Bandura, A. (1982). Self-efficacy mechanisms in human agency. *American Psychologist, 37,* 122-147.

Bandura, A. (1997). *Self-efficacy: The exercise of control.* New York: W. H. Freeman.

Beck, J. & Beck, A. T. (1995). *Cognitive therapy: Basics and beyond.* New York: Guilford Press.

Clarke, D., Waywood, A., & Stephens, M. (1993). Probing the structure of mathematical writing. *Educational Studies in Mathematics, 25*, 235-250.

Dunlap, J. C. (2006). Using guided reflective journaling activities to capture students' changing perceptions. *TechTrends, 50*(6), 20-26.

Fogarty, R. & McTighe, J. (1993). Educating teachers for higher order thinking: The three-story intellect. *Theory into Practice, 32*(3), 161-169.

Manstead, A. S. R. & Van-Eekelen, S. A. M. (1998). Distinguishing between perceived behavioral control and self-efficacy in the domain of academic intentions and behaviors. *Journal of Applied Social Psychology, 28,* 1375-1392.

Nicholas, A. B. (2006). *An introduction to the psychotherapies*. New York: Oxford University Press.

O'Connel, T. & Dyment, J. (2006). Reflections on using journals in higher education: a focus group discussion with faculty. *Assessment and Evaluation in Higher Education, 31(6),* 671-691.

Perkins, D., Simmons, R., & Tishman, S. (1990). Teaching cognitive and metacognitive strategies. *Journal of Structured Learning, 10*(4), 285-303.

Rotter, J. (1966). Generalized expectancies for internal versus external control of reinforcements. *Psychological Monographs, 80,* 609.

Rotter, J. (1971, June). Locus of control scale. *Psychology Today, 42.*

Sadri, G. & Robertson, I. T. (1993). Self-efficacy and work-related behavior: A review and meta-analysis. *Applied Psychology, 42,* 139-152.

Sherer, M., Maddux, J. E., Mercadante, B., Prentice-Dunn, S., Jacobs, B. & Rogers, R.W. (1982). The self-efficacy scale: Construction and validation. *Psychological Reports*, *51*, 663-671.

Stajkovic, A. D. & Luthans, F. (1998). Self-efficacy and work-related performance: A meta-analysis. *Psychological Bulletin, 124,* 240-261.

Krista Fritson earned her PsyD from the Forrest Institute of Professional Psychology, MS from Fort Hays State University and BS from the University of Nebraska at Kearney. Dr. Fritson joined the University of Nebraska at Kearney as an Assistant Professor after serving as a part-time lecturer for two years. At UNK, Dr. Fritson teaches the clinical track courses, abnormal psychology, and general psychology. Additionally, Dr. Fritson continues to work as a Clinical Psychologist providing clinical consultation and services to all age groups and many diagnoses; her specialization is working with children, adolescents, and families. With over 21 years of experience working in the mental health field, Dr. Fritson enjoys the opportunity to engage college students and promote the field of psychology.

Appendix A: Sample Cognitive Behavioral Strategies

1. Cognitive Distortions (Aaron Beck)
   Description: For each of the cognitive distortions, the participants were given a definition and examples of its use, they then identified times in which they use the distortion at least twice that week and journal about it. Students were required to journal about two distortions as assigned by the instructor. The cognitive distortions included the following:
   - All or Nothing: The tendency to see situations as either black or white.
   - Overgeneralizations: Drawing a conclusion based on a single event or small piece of evidence.
   - Filters: We only see what we want to see in a situation.
   - Magnification: The propensity to make mountains out of molehills.
   - Labeling: Putting tags on people or situations that are one dimensional.
   - Jumping to Conclusions: Making snap judgments or assumptions.
   - Shoulds: Following an inflexible list of rules regarding how the world at large "should" behave.
   - Blaming: Constantly pointing the finger of blame at others or yourself.
   - Disqualifying: A person reverses a compliment so that it really becomes a put down.
   - Mistake of Control: Thoughts of feeling totally helpless or that you must be in complete control of a given situation.
2. Assertiveness Skills
   Description: The four communication styles of Passive, Aggressive, Assertive, and Passive-Aggressive were discussed in class. The students described two incidents of these styles in their journals.
3. Progressive Relaxation
   Description: Progressive relaxation strategies were described and briefly demonstrated. The students described two incidents of using this strategy during the week in their journals.
4. Thought-Stopping/Self-Talk Training
   Description: Thought stopping/self-talk strategies were described and demonstrated in class. The students described two incidents of using these strategies during the week in their journals.
5. Visual Imagery
   Description: Visual imagery strategies were described and demonstrated in class. The students described two incidents of using these strategies during the week in their journals.

Appendix B: Sample Cognitive-Behavioral Journal Assignment

List two examples in which you have caught yourself doing "all or nothing" thinking. Fill in the situation, thoughts/feelings section, new thought, and changes according to directions below (do this for 2 examples). Write 4-8 sentences (at least 3/4 page) about your thoughts about all or nothing thinking and how it impacts you and/or others.

All or Nothing: The tendency to see situations as either black or white.

Thought Distortion	Situation	Thoughts/Feelings	New thought	Changes
All or nothing thinking	Write description of situation	Write your thoughts/ feelings about situation	Alter your thought from all or nothing to different type of thinking	What do you think and feel now....?

Appendix C: Sample Journal Assignment for Non-Cognitive-Behavioral Journaling

Journal about your impressions, beliefs, ideas regarding chapters 1 and 2, possibly chapter 3, of your text. Describe in about 6-8 sentences (at least ¾ page). Be sure it is related to topics we have discussed and that are in your text.

Call for Papers

Volume 4: *Scholarship of Teaching and Learning*

InSight: A Journal of Scholarly Teaching is a scholarly publication designed to highlight the work of postsecondary faculty at colleges and universities across the United States. It is a refereed scholarly journal published annually by the Center for Excellence in Teaching and Learning (CETL) at Park University that features theoretical and empirically-based research articles, critical reflection pieces, case studies and classroom innovations relevant to teaching, learning and assessment.

InSight articles focus broadly on the *Scholarship of Teaching and Learning (SOTL)*. Faculty are encouraged to submit original manuscripts that showcase SoTL processes or critically discuss SoTL as a scholarship paradigm. While reports of SoTL projects are welcome, *InSight* is also committed to continuing broader conversations about SoTL's value as a tool for advancing student learning and demonstrating faculty commitment to teaching.

Faculty are encouraged to submit manuscripts related to:

- Challenges/Responses to the SoTL paradigm
- Developing institution or discipline-specific understandings/definitions of SoTL
- Status reports of SoTL's role in a particular discipline
- Guidance to faculty new to SoTL (on developing inquiry questions, determining methodologies, making SoTL work public, etc.)
- Examples of SoTL projects at the course or discipline-level
- Intersections of SoTL and service-learning, eLearning, learning communities, and other learning initiatives
- Future directions in SoTL
- Cross-disciplinary and cross-institutional collaborations for promoting SoTL

Submission Requirements

- *STYLE* - All manuscripts must be formatted in either APA or MLA style.
- *LENGTH* - Manuscripts should be no more than 10 pages (not including abstract, references or appendices). Authors are encouraged to include appendices that promote application and integration of materials (i.e., assignments, rubrics, examples, etc.).
- *ABSTRACT* - Each manuscript must be summarized in an abstract of 50 to 100 words.
- *AUTHOR* - Each author should provide his/her full name, title and departmental affiliation, campus address, telephone number, and email address. Each author must also include a brief biography (no more than 50 words per author).
- *FORMAT* - All manuscripts must be submitted via email as attachments in Microsoft Word or Rich Text Format. Do not include personal identifiers within the manuscript. Include contact information only on a separate cover sheet. Each manuscript will be assigned a unique identifier for blind review processes. Send submissions to cetl@park.edu.
- *DEADLINE* - All submissions must be received by **4:00pm on April 10, 2009 (CST)** to be considered for inclusion in Volume 4.

Review Procedures

Submissions will be subject to a double blind peer-review. A manuscript is evaluated based on relevance, practical utility, originality, generalizability, clarity, significance and the extent to which the subject matter contributes to the ongoing development of the scholarship of teaching and learning. Review process and

publication decisions will require approximately 8 weeks. Referees' feedback and editorial comments will be provided to the author when revisions are requested. If accepted, final versions of manuscripts will be due June 30, 2009. CETL retains the final authority to accept or reject all submitted manuscripts. The publication will be distributed both in print and online in August 2009.

Copyright

Manuscript submissions are accepted with the assumption that they neither have been nor will be published elsewhere. Authors and CETL will hold joint copyright to all published manuscripts.

Contact

All inquiries should be directed to:

B. Jean Mandernach, PhD
Editor, InSight
Research Associate, Center for Excellence in Teaching and Learning
Park University
cetl@park.edu or jean.mandernach@park.edu

For more information, visit the CETL website at www.park.edu/cetl.

QUICK TIPS: PREPARING MANUSCRIPTS FOR *INSIGHT*

The following "Quick Tips" provide suggestions and guidance for preparing manuscripts for potential publication in *InSight: A Journal of Scholarly Teaching*. *InSight* is a peer-reviewed publication highlighting the scholarly contributions of postsecondary faculty. As is the nature of refereed journals, acceptance and publication of original manuscripts is a competitive process. The goal of the following information is to assist faculty in preparing manuscripts in a manner that maximizes the chances of publication.

Preparing the Manuscript

The organization and style of your manuscript will be largely dictated by the type of submission (e.g., theoretical, empirical, critical reflection, case study, classroom innovation, etc.). Thus, while guidelines will follow to assist you in preparing your manuscript, the key to successful submission is clear, effective communication that highlights the significance and implications of your work to post-secondary teaching and learning in relation to the target topic. To prepare and effectively communicate your scholarly work, the American Psychological Association (2001) provides the following general guidelines:

- Present the problem, question or issue early in the manuscript.
- Show how the issue is grounded, shaped, and directed by theory.
- Connect the issue to previous work in a literature review that is pertinent and informative but not exhaustive.
- State explicitly the hypotheses under investigation or the target of the theoretical review.
- Keep the conclusions within the boundaries of the findings and/or scope of the theory.
- Demonstrate how the study or scholarly approach has helped to address the original issue.
- Identify and discuss what theoretical or practical implications can be drawn from this work.

There is no mandatory format for *InSight* articles; rather authors should organize and present information in a manner that promotes communication and understanding of key points. As you write your manuscript, keep the following points in mind:

- Title - Generally speaking, titles should not exceed 15 words and should provide a clear introduction to your article. While it is okay to incorporate "catchy" titles to pique interest, be sure that your title effectively captures the point of your manuscript.
- Abstract - Do not underestimate the importance of your abstract. While the abstract is simply a short summary (50-100 words) of your work, it is often the only aspect of your article that individuals read. The abstract provides the basis from which individuals will decide whether or not to read your article, so be certain that your abstract is "accurate, self-contained, nonevaluative, coherent, and readable" (Calfee & Valencia, 2001).
- Body - Within the body of a manuscript, information should be organized and sub-headed in a structure that facilitates understanding of key issues. There is not a mandatory format for *InSight* articles, rather authors should use professional guidelines within their discipline to present information in a manner that is easily communicated to readers. For example:
    - *Empirical investigations* should be organized according to the traditional format that includes introduction (purpose, literature review, hypothesis), method (participants, materials, procedures),

results, and discussion (implications). The following links provide general examples of this type of article:
    - http://www.thejeo.com/MandernachFinal.pdf
    - http://www.athletic*InSight*.com/Vol7Iss4/Selfesteem.htm
- *Theoretical articles and literature reviews* should include an introduction (purpose), subheadings for the relevant perspectives and themes, and a detailed section(s) on conclusions (applications, recommendations, implications, etc.). The following links provide general examples of this type of article:
    - http://www.westga.edu/%7Edistance/ojdla/winter84/royal84.htm
    - http://www.westga.edu/%7Edistance/ojdla/winter84/mclean84.htm
- *Classroom innovation and critical reflections* should be organized via an introduction (purpose, problem, or challenge), relevant background literature, project description, evaluation of effectiveness (may include student feedback, self-reflections, peer-insight, etc.), and conclusions (applications, implications, recommendations, etc.). If describing classroom-based work, please include copies of relevant assignments, handouts, rubrics, etc. as appendices. The following link provides a general example of a critical reflections article:
    - http://www.compositionstudies.tcu.edu/coursedesigns/online/33-2/ritter.html

The limited length of *InSight* articles (manuscripts should be no more than 10 pages, not including abstract, references or appendices) requires authors to focus on the most significant, relevant factors and implications.

- References - Select your references carefully to ensure that your citations include the most current and relevant sources. As you select your references, give preference to published sources that have proven pertinent and valuable to the relevant investigations. The goal is not to incorporate ALL relevant references, but rather to include the most important ones.
- Tables, Figures, Appendices & Graphics - Authors are encouraged to include supporting documents to illustrate the findings, relevance or utilization of materials. Particularly relevant are documents that promote easy, efficient integration of suggestions, findings or techniques into the classroom (such as rubrics, assignments, etc.). Supplemental information should enhance, rather than duplicate, information in the text.

The importance of clear, effective communication cannot be highlighted enough. Many manuscripts with relevant, original, applicable ideas will be rejected because authors do not communicate the information in a manner that facilitates easy understanding and application of key points. The value of a manuscript is lost if readers are unable to overcome written communication barriers that prevent use of the knowledge. With this in mind, authors are strongly advised to seek informal feedback from peers and colleagues on manuscripts prior to submission to *InSight*. Requesting informal reviews from relevant professionals can highlight and correct many concerns prior to formal submission, thus improving chances of publication.

References

American Psychological Association. (2001). Publication manual of the American Psychological Association (5th ed.). Washington, DC: Author.

Calfee, R. & Valencia, R. (2001). APA Guide to preparing manuscripts for journal publication. Washington, DC: APA.

QUICK TIPS: SUBMISSION GUIDELINES FOR *INSIGHT*

The following "Quick Tips" provide suggestions and guidance for submitting manuscripts to *InSight: A Journal of Scholarly Teaching*. *InSight* is a peer-reviewed publication highlighting the scholarly contributions of postsecondary faculty. The following information provides an overview of the purpose, scope and functioning of *InSight* so that faculty may better understand the *InSight* publication process.

Scope & Focus

InSight features theoretical and empirically-based research articles, critical reflection pieces, case studies, and classroom innovations relevant to teaching, learning and assessment. While there are a broad range of acceptable topics, all manuscripts should be supported with theoretical justification, evidence, and/or research (all methods and approaches relevant to qualitative and quantitative research are welcome); all manuscripts should be appropriately grounded in a review of existing literature.

Audience

InSight emphasizes the enhancement of post-secondary education through the professional exchange of scholarly approaches and perspectives applicable to the enrichment of teaching and learning. Relevant to this mission, manuscripts should be geared toward post-secondary faculty and administrators; included in this audience are full-time and adjunct faculty; face-to-face, hybrid and online faculty; tenure and non-tenure track instructors; trainers in corporate, military, and professional fields; adult educators; researchers; and other specialists in education, training, and communications. Recognizing the cross-disciplinary readership of *InSight*, manuscripts should present material generalizable enough to have relevance to post-secondary instructors from a range of disciplines.

Review Process

All submissions are evaluated by a double-blind, peer-review process. The masked nature of the reviews helps ensure impartial evaluation, feedback and decisions concerning your manuscript.

This review process utilized by *InSight* mandates that you should keep the following points in mind when preparing your manuscript:

- Your name and other identifying information should only appear on the title page; the remainder of the manuscript should be written in a more generalized fashion that does not directly divulge authorship.
- All information needs to be explained and supported to the extent that an individual not familiar with a particular institution's mission, vision or structure can still clearly understand the relevance, significance and implications of the article.

Focus of the Review

Prior to dissemination to the reviewers, the *InSight* Editor will conduct a preliminary appraisal for content, substance, and appropriateness to the journal. If the manuscript is clearly inappropriate, the author will be informed and the manuscript returned. Appropriate manuscripts will be electronically sent to a minimum of two reviewers for blind evaluation. Although there is an attempt to match manuscripts and reviewers according to content, interests, and topical relevance, the broad focus of the journal dictates that papers be written for

applicability to a wide audience. As such, reviewers may not be content experts in a relevant, matching academic discipline.

The manuscript will be reviewed and evaluated according to the following dimensions:

- Relevance - The most important feature of your manuscript is its relevance; the decision to accept or reject a manuscript is typically based on the substantive core of the paper. As such, manuscripts should introduce the substance of the theoretical or research question as quickly as possible and follow the main theme throughout the article in a coherent and explicit manner.
- Significance - Related to relevance, significance refers to the value of your manuscript for substantially impacting the enhancement of post-secondary education relevant to the target topic. Significant manuscripts will clearly highlight the value, importance and worth of a relevant topic within a meaningful context.
- Practical Utility - As highlighted previously, the goal of *InSight* is to enhance teaching and learning through the exchange of scholarly ideas. With this purpose in mind, all manuscripts should emphasize the practical value, relevance or applicability of information. Manuscripts should go beyond the simple reporting of information to provide *InSight* into the implications of findings and the application of information into meaningful contexts.
- Originality - The most effective articles are those that inspire other faculty through innovative practices, approaches and techniques or via the thoughtful self-reflection of the purpose, value and function of educational strategies. Thus, manuscripts that highlight original approaches or perspectives will be given priority. Per the nature of published work, all contributions must be the original work of the author or provide explicit credit for citations.
- Scholarship of Teaching - Contributions to the enrichment of teaching and learning should be grounded in relevant theoretical concepts and empirical evidence. As such, articles should be free from flaws in research substance/methodology and theoretical interpretation. All conclusions and recommendations must be substantiated with theoretical or empirical support; personal classroom experiences and critical reflections should be framed within a structure of existing literature.
- Generalizability - The broad goals and varied audience of *InSight* mandate that manuscripts be written for consumption across a range of disciplines that allows generalizability of findings and implications. Thus, while classroom techniques may be developed, tested and reported for a specific discipline or student population, the manuscript should go on to highlight the implications for other populations.
- Clarity - All manuscripts must be written in a clear, professional manner free from grammatical flaws and errors in writing style. The purpose of the manuscript should be clearly defined, relevant and supported by the evidence provided. All manuscripts should be structured in a manner that promotes a clear, cohesive understanding of the information presented. Be sure that your manuscript is free from organizational, stylistic or "sloppiness" barriers that would prevent effective communication of your work.
- Contribution to the Scholarship of Teaching and Learning - All manuscripts must be clearly relevant and advance our understanding or application of the scholarship of teaching and learning within an educational context. Despite the quality of a manuscript, articles that do not directly align with scholarly teaching will not be published.

Review Outcomes

Based upon the feedback and recommendations of the anonymous reviewer panel, the Editor will make a final publication decision. Decisions fall into the following categories:

- Reject - Rejected manuscripts will not be published and authors will not have the opportunity to resubmit a revised version of the manuscript to *InSight*. All rejections will be handled in a courteous manner that includes specific reasons for rejection.
- Accept Pending Revisions - A manuscript accepted-pending-revisions meets all the major requirements for publication but may need improvements in substantive, mechanical or methodological issues. Once these issues are adjusted for, the manuscript must be reviewed and approved by the Editor prior to publication. Very rarely is an article accepted with no changes required; as such, most manuscripts are accepted in this category.
- Accept - Accepted manuscripts will be published "as-is" with no further modifications required.

ACKNOWLEDGEMENTS

InSight: A Journal of Scholarly Teaching could not have been created without the contributions of many individuals; the Center for Excellence in Teaching and Learning is deeply indebted to each of them for their support and expertise.

For sharing freely their ideas about good teaching: The faculty and students featured in this volume; we thank the featured educators for their willingness not only to invest their time and effort to improve teaching and learning in their classrooms, but also for their willingness to share their experiences to facilitate improved teaching for all of us.

For providing support and funding: The executive staff of Park University; their leadership and support in providing faculty resources makes this publication possible. A special thank you is given to President Beverley Byers-Pevitts, Dr. Michael Droge, and Dr. Marilyn Bartels.

For administrative assistance throughout the process of creating InSight: Megan Holder and Rose Hochstatter.

For reviewing and commenting on draft material at various stages: The internal and external Peer Review Board.

For copy-editing assistance: Megan Kean and Keith Snyder.

For design and production assistance: Fred Rohrer, Graphic Designer.