

VOLUME 5

A Journal of the Center for Excellence in Teaching and Learning





©2010 Park University

"Experience is not what happens to you. It is what you do with what happens to you." ~Aldous Huxley

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-Hebert, PhD, Park University Emily Donnelli-Sallee, PhD, Park University

PEER REVIEW BOARD

Josephine C. Agnew-Tally, EdD, Missouri State University Joan Aitken, EdD, Park University Cynthia C. Amyot, EdD, University of Missouri-Kansas City Virginia Brackett, PhD, Park University Lisa M. Bunkowski, PhD, Texas A&M University-Central Texas Kenneth Christopher, DPA, Park University Lora Cohn, PhD, Park University Amber Dailey, PhD, Park University Laurie DiPadova-Stocks, PhD, Park University Emily Donnelli, PhD, Park University Judy Dunham, PhD, MidAmerica Nazarene University Krista Forrest, PhD, University of Nebraska-Kearney Krista Fritson, PsyD, University of Nebraska-Kearney Roxanne Gonzales, EdD, Park University Matt Hollrah, PhD, University of Central Oklahoma Rosemary Leary, PhD, Maricopa Community College Julie Lochbaum, PhD, Truman State University Michael Klassen, PhD, University of Northern Iowa Teresa Mason, PhD, Park University Kathleen McKinney, PhD, Illinois State University Renee Michael, PhD, Rockhurst University Lolly Ockerstrom, PhD, Park University Donovan Obray, MBA, Park University Jennifer Robinson, PhD, Indiana University Brian Sloboda, PhD, Park University Sarah Taylor, MS, Washburn University Theresa Wadkins, PhD, University of Nebraska-Kearney Hong Wang, PhD, Fort Hays State University Kenneth Weaver, PhD, Emporia State University Gregg Wentzell, PhD, Miami Univeristy Don Williams, EdD, Park University William Venable, 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 http://www.insightjournal.net/.

COPYRIGHT

©2010 Park University ISSN: 1933-4850 E-ISSN:1933-4869

This work is licensed under the Creative Commons Attribution-Noncommercial-No Derivative Works 3.0 United States License. To view a copy of this license, visit http://creativecommons.org/licenses/by-nc-nd/3.0/us/ or send a letter to Creative Commons, 171 Second Street, Suite 300, San Francisco, California,94105, USA.

For permissions and reprint inquiries, contact CETL, Park University, 8700 NW River Park Drive, Parkville MO, 64152, email: cetl@park.edu.

"A teacher affects eternity; he can never tell where his influence stops." ~Henry Brooks Adams

CONTENTS VOLUME 5 • 2010



EDITORS' INTRODUCTION

EDITORIAL

9 Looking Through Our Own Barriers to Recognize Our Students'
Integrity
William Douglas Woody, University of Northern Colorado

SCHOLARLY ARTICLES

- A Course Exploration: Guiding Instruction to Prepare Students as Change Agents in Educational Reform
 Kathy L. Church, Pepperdine University
- 27 Serve, Teach, and Lead: It's All about Relationships
 Carolyn Crippen, University of Victoria
- **37** Literacy and Art: Collage for Pre-Service Teachers Alice J. Feret and Judith J. Smith, East Carolina University
- Traceable Recursion with Graphical Illustration for Novice Programmers

 Leonardo Sa and Wen-Jung Hsin, Park University
- 63 Teaching & Learning for International Students in a 'Learning Community': Creating, Sharing and Building Knowledge
 Linzi Kemp, American University of Sharjah
- 75 Student Reported Growth: Success Story of a Master of Science in Education Learning Community Program
 Sharon Kabes and John Engstrom, Southwest Minnesota State University
- The Growth of Higher Educators for Social Justice: Collaborative
 Professional Development in Higher Education
 Molly K. Ness, Marshall A. George, Kristen Hawley Turner, and Jane
 Bolgatz, Fordham University
- "Hey, I Can Do This!" The Benefits of Conducting Undergraduate
 Psychology Research for Young Adult Development
 H. Russell Searight and Susan Ratwik, Lake Superior University, and Todd Smith. Pikeville College

INFORMATION FOR CONTRIBUTORS

- **2011 Call for Papers**Center for Excellence in Teaching and Learning
- **117 Quick Tips: Preparing Manuscripts for InSight**Center for Excellence in Teaching and Learning
- **120 Quick Tips: Submission Guidelines for InSight**Center for Excellence in Teaching and Learning

ACKNOWLEDGEMENTS

123 Acknowledgements

"Who dares to teach must never cease to learn." ~John Cotton Dana

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 and to enhancing the quality of postsecondary education. From the thought-provoking introductory editorial to the classroom investigations, theoretical discussions and instructional 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 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-Sallee, and Amber Dailey-Hebert

"A mind once stretched by a new idea never regains its original dimensions." ~Anonymous

"The only person who is educated is the one who has learned how to learn and change."
~Carl Rogers

Looking Through Our Own Barriers to Recognize Our Students' Integrity

William Douglas Woody, PhD Professor, Department of Psychological Sciences University of Northern Colorado

Many scholars of ethical teaching recommend that teachers review their own biases and strive to reduce the influence of these biases in their classrooms (e.g., Svinicki & McKeachie, 2010; Davis, 1993; Boysen & Vogel, 2009). Teachers and students perceive fairness as necessary for the credibility of academic disciplines as well as departments and instructors (Keith-Spiegel, Tabachnick, & Allen, 1993; Tabachnick, Keith-Spiegel, & Pope, 1991), and these concerns apply across academic fields (Woody, 2008b). As teachers of psychology, we should strive to eliminate or reduce the influence of our own extracurricular biases as we choose topics, present material, discuss current events, incorporate class examples, and engage in other inherently persuasive teaching activities (Friedrich & Douglass, 1998; Svinicki & McKeachie, 2010; Woody, 2006). Additionally, we should challenge the biases of our students (Boysen & Vogel, 2009; Boyson, Vogel, Cope, & Hubbard, 2009; Wolfe & Spencer, 1996) and seek to perpetuate the disciplinary, university, college, and department goals of increasing our students' awareness of issues and questions in diversity and multicultural education (see American Psychological Association, 2002, 2003; Halonen et al., 2006).

Perhaps most importantly, we should recognize our personal biases, and we should explicitly strive to keep our biases about gender, language, disability, Thorpe, citizenship status (see 2009 for discussion of students' fears of faculty bias), veteran status, socioeconomic status, political ideology, and religion, among other factors, from affecting our views or treatment of students (see e.g., Babad, Inbar, & Rosenthal 1982; Boysen et al., 2009; Boysen & Vogel,

We should strive to eliminate or reduce the influence of our own extracurricular biases as we choose topics, present material, discuss current events, incorporate class examples, and engage in other inherently persuasive teaching activities.

2009; Sue, Lin, Torino, Capodilupo, & Rivera, 2009; Svinicki & McKeachie, 2010), particularly because even a single incident of bias can influence a student's university experience (Samuel, 2004). It is possible to recognize and change our own biases, but these changes require substantial motivation and effort (Devine & Monteith, 1999). The biases noted previously have received extensive attention in the literature, and I encourage instructors to evaluate these and other prejudices they may have toward students. Particularly, in addition to the previous list, I encourage teachers of psychology to evaluate the cultural biases and their personal biases toward young adults (Bytheway, 1995) as well as the ways that faculty may treat traditional-aged undergraduate students.

The biases related to age and traditional undergraduate students entered my own awareness most saliently when I was a young (i.e., 32) faculty member who, at the time, looked significantly younger than I was. I attended a social reception at a psychological convention, and I had a conversation with a well-known male psychologist. He appeared extremely impressed to learn the name of my

١

¹ I note the psychologist was male only to ease my use of pronouns.

university, and then he proceeded to ask the names of faculty members with whom I studied. When I named faculty who were my scholarly collaborators, he replied, "Woooow, I bet it is VERY interesting to study with those people." His speech was slow, exaggerated, and simplified. He asked me what topics I studied, and my response earned another exaggerated "Oooooh." His speech pattern was patronizing and familiar, but I needed a moment to recognize it. He used the speech pattern of an uncle being shown a new truck by an excited 7-year old nephew. I wondered how I generated such an air of incompetence as to inspire a well-known psychologist to talk to me as though I were a small child, and then I recognized his misperception: he believed me to be an undergraduate. My realization helped me make sense of his words and his speech pattern, particularly given the literature on juvenile ageism, or negative biases toward children (Westman, 1991); since then, however, our conversation has raised larger questions for me.

I describe this event in my classes as an example of negative bias toward children and young adults, and students and colleagues often ask how I responded to his behavior and to his potential slight. I did not say anything at the time.² My thoughts, then and now, did not focus on myself but rather on the intelligent, self-aware, young adults with whom this faculty member works. This person's advanced undergraduate students, many of whom are bound for graduate and professional programs, can serve in the armed forces (and may already be combat veterans), vote, raise families as is typical around the world for adults of traditional college age, and would face adult charges for criminal activity,³ but these students face childlike treatment from an influential mentor who may shape their careers and write on their behalf for future education and employment.

These biases against children and young adults have strong foundations in our culture (Westman, 1991). Additionally, emerging adulthood (i.e., from the late

teens through the twenties) has gained more support in the literature as a unique phase of life distinct from later adulthood (see e.g., Arnett, 2000; 2004). Older adults may perceive and treat emerging adults as children, and emerging adults may perceive themselves as children (Dickinson, 2010). As teachers of psychology, however, we should challenge biases toward children and young

I recommend that faculty explicitly set adult expectations for their classes and clearly expect students to rise to these standards.

adults as well as the extracurricular effects of these biases in the classroom. Fighting one's biases is difficult, particularly when one challenges biases with strong cultural roots. Additionally, as individuals embedded in a hierarchical system that can devalue students (see Woody, 2004), faculty may find it difficult to recognize their own views. Regardless, I recommend that teachers of psychology strive to recognize, evaluate, and challenge their own stereotypes about age. Several concrete steps exist. First, I recommend that faculty explicitly set adult expectations for their classes and clearly expect students to rise to these standards (see Babad, 1993; Jussim, Madon, & Chatman, 1994). For a short example, I do not take attendance in my demanding senior-level classes. Instead, when discussing the syllabus on the first day of class, I read from my syllabus that "For every class session, 100 percent attendance and active, appropriate, scholastic senior-level participation is expected." I then note that I will not take attendance and that each student has the freedom and responsibility to make his or her own choices regarding class attendance, participation, and performance. My emphasis on the adult status of students does not mean that I am rigid. This view of my students

 $^{^{\}rm 2}$ Eventually, a passer-by addressed me by title, and our conversation became rather awkward.

³ Including eligibility for the death penalty in some states.

also means that I expect them to have complicated and sometimes difficult adult lives and that I remain flexible for the adults in my classes. Throughout the class, I emphasize student responsibility, even as I provide support and guidance as an instructor.

As a second concrete step, I recommend that faculty cease to refer to their students as the "kids" in their classes. As an instructor of mostly upper-division classes, there are very few if any legal children in my classes, and I do not refer to students as "kids." When I teach the psychology of prejudice, we explicitly discuss this decision when we talk about the importance of respect across cultural divisions, including age. Throughout the class, I explicitly and carefully adhere to language that accurately reflects my expectations and my students' responsibilities. I made these decisions in my own teaching in the absence of experimental assessment. I did not know that students noticed this behavior until a convention conversation hour about prejudice in classrooms (Becker, Elliot, Squires, & Adaoag, 2007). Students talked about the degrees to which they felt inspiration, responsibility, and, perhaps more importantly, respect by the refusal to call them 'kids.'

These issues, however, are not simple. We hope that students of every age undergo development from intellectually curious freshmen to inspired, methodologically aware, better-educated, intellectually curious seniors, and recognition of this developmental process remains critical to our success as teachers (see e.g., Brewer et al., 1993). Of course, we have different scholastic expectations in our introductory or lower-level classes than we do in our upper-division or graduate classes. Interacting with students at different stages of their education raises complex questions. I recognize, for example, that the individual to whom I spoke at the convention may have sought to be more approachable to undergraduates by talking in non-threatening ways; however, one challenge as teachers is to seek approachability with respect. Despite the complexity of these issues, we can find ways to be more approachable without devaluing the young people who require academic support as they develop into scholars. One of our

challenges is to see past undergraduates' generally greater needs for instruction (while we seek and recognize exceptional undergraduates; Woody, 2008a) and instead to undergraduate students as the practitioners, scholars, and teachers that we once were. I ask teachers of psychology to undertake a complex endeavor: we should strive to recognize the emerging adulthood of our traditional-aged students without simultaneously devaluing these students as children. Most importantly, we must recognize the integrity of the human beings with whom we work, regardless of their age or other aspects of their identities.

We hope that students of every age undergo development from intellectually curious freshmen to inspired, methodologically aware, better-educated, intellectually curious seniors, and recognition of this developmental process remains critical to our success as teachers.

As a historian of psychology, I argue we should look past admissions requirements, degree programs, and standardized tests to recognize our earliest historical roots as academics. Throughout history and across cultures, as today in the US, students have endured the hardships of travel, time away from family, challenges of living with limited or nonexistent income or support, and significant financial expenses to sit at the feet of, or study with, faculty (Woody, 2006). The faculty member's obligation is to the student and the student's success. As teachers of psychology, we must recognize students as humans with integrity. Our success comes when our students go beyond us; we must see past our own biases,

including those biases about age, if we seek to help our students reach their potential.

References

American Psychological Association. (2002). Ethical principles of psychologists and code of conduct. *American Psychologist*, *57*, 1060-1074.

American Psychological Association. (2003). Guidelines on multicultural education, training, research, practice, and organizational change for psychologists. *American Psychologist*, *58*, 377-402.

Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, *55*, 469-480.

Arnett, J. J. (2004). Emerging adulthood: The winding road from the late teens through the twenties. New York, NY: Oxford University Press.

Babad, E. (1993). *Pygmalion*: 25 years after interpersonal expectations in the classroom. In P. D. Blanck (Ed.), *Interpersonal expectations: Theory, research, and applications* (pp. 125-153). New York, NY: Cambridge University Press.

Babad, E. Y., Inbar, J., & Rosenthal, R. (1982). Teachers' judgments of students'potential as a function of teachers' susceptibility to biasing information. *Journal of Personality and Social Psychology*, 42, 541-547.

Becker, S., Elliot, J., Squires, L., & Adaoag, M. (2007). Minority students speak out: Messages to faculty about the college classroom experience. Rocky Mountain Psychological Association Convention, Denver, CO. RMPA Diversity Symposium.

Boysen, G. A., & Vogel, D. L. (2009). Bias in the classroom. Types, frequencies, and responses. *Teaching of Psychology*, *36*, 12-17.

Boysen, G. A., Vogel, D. L., Cope, M. A., & Hubbard, A. (2009). Incidents of bias in college classrooms: Instructor and student perceptions. *Journal of Diversity in Higher Education*, 2, 219-231.

Brewer, C. L., Hopkins, J. R., Kimble, G. A., Matlin, M. W., McCann, L. I., McNeil, O. V., et al. (1993). Curriculum. In T. V. McGovern (Ed.), Handbook for enhancing undergraduate education in psychology (pp. 161-182). Washington, D.C.: American Psychological Association.

Bytheway B. (2005). *Ageism*. Bristol, PA: Open University Press.

Davis, B. G. (1993). *Tools for teaching*. San Francisco, CA: Jossey-Bass.

Devine, P. G., & Monteith, M J. (1999). Automaticity and control in stereotyping. In S. Chaiken & Y. Trope (Eds.), *Dual-process theories in social psychology* (pp. 339-360). New York, NY: Guilford.

Dickinson, A. (July 28, 2010). Ask Amy: College-age "kids" just finding their way. Retrieved August 23, 2010 from

http://www.philly.com/inquirer/maga zine/20100728_Ask_Amy__Collegeage__kids__just_finding_their_way.h tml

Friedrich, J., & Douglass, D. (1998). Ethics and the persuasive enterprise of teaching psychology. *American Psychologist*, *53*, 549-562.

Halonen, J. S., Appleby, D. C., Brewer, C. L., Buskist, W., Gillem, A. R., Halpern, D., et al. (2006). *APA* guidelines for the undergraduate psychology major. Washington, D.C.: American Psychological Association. Jussim, L., Madon, S., & Chatman, C. (1994). Teacher expectations and student achievement: Self-fulfilling prophecies, biases, and accuracy. In L. Heath, R. S. Tindale, J. Edwards, E. J. Posavac, F. B. Bryant, E. Henderson-King, Y. Suarez-Balcazar, & J. Myers (Eds.), *Applications of heuristics and biases to social issues* (pp. 303-334). New York, NY: Plenum Publishing.

Keith-Spiegel, P. C., Tabachnick, B. G., & Allen, M. (1993). Ethics in academia: Students' views of professors' actions. *Ethics and Behavior*, *3*, 149-162.

Samuel, E. (2004). Racism in peergroup interactions: South Asian students' experiences in Canadian academe. *Journal of College Student Development*, 45, 407-424.

Sue, D. W., Lin, A. I., Torinio, G. C., Capodilupo, C. M., & Rivera, D. P. (2009). Racial microaggressions and difficult dialogs on race in the classroom. *Cultural Diversity and Ethnic Minority Psychology*, *15*,183-190.

Svinicki, M., & McKeachie, W. J. (2010). *McKeachie's teaching tips: Strategies, research, and theory for college and university teachers* (13th ed.). Belmont, CA: Cengage Learning.

Tabachnick, B. G., Keith-Spiegel, P., & Pope, K. S. (1991). Ethics of teaching: Beliefs and behaviors of psychologists as educators. *American Psychologist*, 46, 506-515.

Thorpe, H. (2009). *Just like us: The true story of four Mexican girls coming of age in America*. New York: Scribner.

Westman, J. C. (1991). Juvenile ageism: Unrecognized prejudice and discrimination against the young. Child Psychiatry and Human Development, 21, 237-256.

Wolfe, C. T., & Spencer, S. J. (1996). Stereotypes and prejudice: Their overt and subtle influence in the classroom. *American Behavioral Scientist*, 40, 176-185.

Woody, W. D. (2004). Universities, psychology departments, and the treatment of graduate students. In W. Buskist, V. W. Hevern, B. K. Saville, & T. Zinn (Eds.), *Essays from E-xcellence in teaching*, (vol. 3). Electronic book: Society for the Teaching of Psychology. Available at http://teachpsych.lemoyne.edu/teachpsych/eit/eit2003/index.htm

Woody, W. D. (2006). Ethical teaching. In W. Buskist, & S. F. Davis (Eds.), *Handbook of the Teaching of Psychology* (pp. 221-227). Malden, MA: Blackwell Publishing.

Woody, W. D. (2008a).
Collaboration: Faculty perspective. In R. Miller, R. Rycek, E. Balcetis, S. Barney, B. Beins, S. Burns, R. Smith, & M. E. Ware, (Eds.), Developing, promoting, and sustaining the undergraduate research experience in psychology (pp. 215-219). Electronic book: Society for the Teaching of Psychology. Available at http://teachpsych.org/resources/e-books/ur2008/5-2%20Woody.pdf

Woody, W. D. (2008b). Learning from the codes of academic disciplines. New Directions for Higher Education [Special Issue: Practical Approaches to Ethics for Colleges and Universities], 36, 39-54.

William Douglas Woody earned his PhD in 1999 from Colorado State University. He taught at the University of Wisconsin – Eau Claire for two and a half years and is currently Professor of Psychological Sciences at the University of Northern Colorado. His research interests include the teaching of psychology, psychology and law, and the history of psychology. He has received numerous college, university, and national teaching awards, including the Wilbert J. McKeachie Teaching Excellence Award from the Society for the Teaching of Psychology (APA Division Two). Additionally, he has been named Best Professor by the students at two of the three universities at which he has taught.

A Course Exploration: Guiding Instruction to Prepare Students as Change Agents in Educational Reform

Kathy L. Church, EdD
Associate Professor, Graduate School of Education and Psychology
Pepperdine University

This article explores the premise of teacher identity development through course experiences directed at inquiry and social awareness. The course exploration examines the use of various strategies used to help promote educators as change agents. Pre-service students enrolled in a one-year master's program with teaching credential participated in a yearlong course designed to engage them in guided inquiry while making connections between theory and practice. Evaluation of the projects and student perceptions of their work suggest that guided inquiry into educational issues builds critical thinking skills and a sense of purpose, leadership, and service through shaping teacher identity.

With the realities of today's criticisms of teacher education and the established need for high quality teachers, teacher education programs must be exemplary in creating effective educational paths for tomorrow's educators. Doubtful attitudes toward teacher education programs are quick to point out 'real' learning can only take place in the classroom (Britzman, 2003). Yet, it is well established that *it is* the responsibility of teacher education programs to prepare quality teachers (Darling-Hammond & Bransford, 2005).

Preparing quality teachers to serve diverse populations within an education system that itself is being held to ethical issues concerning equal educational experiences in public schools, regardless of the population served, is not an easily achieved goal (French 2005; Hollins & Guzman, 2005). One possible avenue to support aspects of social iustice and educational reform is to do so within the schools themselves by helping to prepare more socially aware educators. This article examines a more directed approach to shaping

Professors select appropriate teaching and learning experiences that will engage students in developing knowledge, dispositions, and skills in expectation that those newly developed capabilities will improve education delivery.

teacher identity by exploring a yearlong course designed to employ guided inquiry within a community of learners' perspective (Shulman, 2005). It is the intent of this course exploration to gain more understanding of how one can facilitate building sensitivity and action-oriented dispositions as part of the teacher identity development of future teachers.

Context of Teaching and Learning

In teacher education, professors select appropriate teaching and learning experiences that will engage students in developing knowledge, dispositions, and skills in expectation that those newly developed capabilities will improve education delivery. One way to guide students on this path is to focus instruction on the ongoing expansion of one's teacher identity. The development of teacher identity is a dynamic process that evolves over time in interaction with others (Cooper & Olson, 1996). As stated by Bullough, Knowles, & Crow (1992), "Teacher identity...is of vital concern to teacher education; it is the basis for meaning making and decision making" (p. 21). Therefore, it seems warranted that attention to teacher identity should be the foundation from which learning in the college and school

classroom can be examined. Teacher identity should not be left to chance and in a program lasting one short year; it needs to be an integral part of the educational plan.

At any point in time, one's teacher identity becomes the lens through which conclusions are drawn and actions are directed. Instructional decision making and attitudes are shaped by this professional identity as easily as water flows through a filter (Campbell, 2005). A teacher candidate's belief system will strongly influence what they learn, how they perceive a situation, and how they will respond. This exploration of identity views the process as one that is not fixed but is an ongoing progression that is relational in nature and is likely to be multileveled where various contextual identities may exist (Beijaard, Meijer, & Verloop, 2004). When there is conflict between identities, it is advantageous to provide an avenue for exploration and understanding through teacher education programming and instruction.

Process of Exploration through Teacher Identity

The process of exploring a course directed at shaping teacher identity focused on the following two questions: Could the building blocks of teacher identity be examined through course design and teacher candidate performances while engaged in yearlong field experiences? Would course elements focused on critical evaluation of educational issues and the process of inquiry become avenues for shaping sense of self and altering teacher behavior of two graduate level cohorts? This process of exploration is different from what is normally seen in teacher identity studies, which often look at smaller numbers of students and limit exploration to elementary student teachers rather than secondary student teachers

(Britzman, 1994; Bullough & Knowles, 1991; Clandinin, 1986; Clandinin & Connelly, 1996). The present examination looks at a larger number of students, both elementary and secondary level student teachers, and focuses on the content, delivery, and outcome products of the course experiences.

At any point in time, one's teacher identity becomes the lens through which conclusions are drawn and actions are directed.

Although teacher identity is ever changing, the direct approach to influencing its development in this particular teacher education program is a conscious directive to support the critical transition of the perception of self from a student to one as a teacher. The transition to seeing oneself as a developing teacher is an essential step to identifying one's power to influence change. Teacher candidates become more familiar with themselves as educators in the midst of learning and contributing in a collaborative group of educators (e.g. professors, other teacher candidates, master teachers, and other professionals in the schools). In an attempt to boost the development of teacher identity in a one-year master of arts in education and teacher credential program, a university in Southern California purposely designed the curriculum to focus upon the developing teacher identity and the ability to engage in educational change.

Given this challenge, a course entitled *Teacher Identity and Vocation* was designed to incorporate the use of action research, research-based service-learning projects, or self-directed inquiry as project choices in order to assist students in developing personal teaching identities sensitive to educational issues. The supposition of developing the course was to get teacher candidates thinking right away about the critical educational concerns and questions that will be evident in their role as educators; the hope was that if they perceived themselves as change agents, this may lead them to actively engage in educational problem-solving.

Setting and Participants

Two cohorts attending a university in Southern California were followed during a yearlong teacher credential program. Students in this program completed a master's degree and credential in 11 months. They began their program in the fall and completed the program the following July. Each cohort contained 14 students pursuing either an elementary or secondary credential. A total of 15 graduate students pursued and obtained their elementary credential, and 13 obtained their secondary credential.

The students commit one year to the program; while working on their courses, they engage in student teaching placements in the surrounding community. The community has great diversity in placement settings. Some placements are suburban, while others meet the characteristics of urban communities with respect to the diversity of the population, large low income population, number of students eligible for free lunch, and being identified as title one schools. The diverse experiences bring richness to the many discussions that take place with their fellow teacher candidates, mentor teachers, and faculty facilitator. The intimacy of such a learning group enriches participation, resulting in deep discussion of commonalities and differences and perhaps more importantly, inquiring as to the possible explanations.

Course Structure and Delivery

The course is a one-unit per term, three-term course that is designed to shape teacher identity through a community of learners' perspective and guide individual students to explore answers to driving questions formulated during the course.

Students engage in group discussions concerning social issues and educational reform. Leadership, equal access, social justice, quality teachers, standard based instruction, authentic and experiential learning and assessmentbased decision making are some of the topics that are brought to the table for discussion. The realities of their classroom experiences help to define the realities within the world of practice.

The discussions often present more questions or need for clarity as students search out answers and bring them to the whole group for further exploration. Shulman's (2005) community of learners format is followed in the context of the searching and sharing. Teacher candidates

The realities of their classroom experiences help to define the realities within the world of practice.

focus on specific questions or topics of concern and come back to the group as experts. The sharing of new information is then brought to the forum in the way of how certain problems might be solved. The course also directly connects their discussions and inquiry to their student teaching field experiences. The shared discussions and personal construction of understanding helps the student make sense of the four categorical sources of teacher identity--role models, past teaching experience, education course work, and past experiences as a learner (Knowles, 1992; Vinz, 1996)--while incorporating their fresh learning experiences into their new sense of self. By adding a course that supports students throughout the length of their program, the new teacher education candidates begin to quickly see the relationship and essential connections that research, practice, and classroom application can bring to their new learning context of teacher identity (Hoffman-Kipp, 2008).

Term Goals

Term one focuses on discussion, learning, sharing, observing, and making connections to the real world. The final outcome of term one is for each student to have a driving question ready for investigation which includes a beginning research-based review of literature. The second term looks at avenues of systematic study of questions and results in writing an inquiry proposal for carrying out a project to explore their selected driving question. Term three involves implementation of the project and developing the final outcome products of written paper and final public presentation of their inquiry project. Table 1 displays the focus of each term with their associated outcome products.

Format Choices for Student Inquiry

The students at some point, usually the end of the first term, decide on one of three approaches to studying their question: action research, research-based service-learning projects, or a self-directed inquiry project. These are often connected to how the student perceives the need of investigation. Some students will focus on the needs of the students and or community (i.e., service-learning), some on the actual teaching-learning process within the classroom (i.e., action research), while others will spend time seeking answers to a problem that is self-quided in terms of need (i.e., self-directed inquiry).

Questions are formed as students make connections in their learning, and guidance for these students is obtained through the literature and from in-depth conversations with the facilitating professor. The relaxed nature of the course allows for informal presentation of ideas for the community of learners to consider, and students are encouraged to connect theory and practice from

Questions are formed as students make connections in their learning, and guidance for these students is obtained through the literature and from in-depth conversations with the facilitating professor.

their courses and field assignments. In comparison to service-learning and action research, the projects in this choice are slower to develop in their final form, but usually end up having a more significant outcome product in terms of length and depth. As students begin to develop questions of personal concern, they are directed in even smaller groups or individually to investigate the related research.

How the Inquiry Project Choices Inform Student Learning

As stated above, the direction of the students' inquiry projects reflects the question and area of concern being investigated. Students are aware of the choices, and as their inquiry questions take form, they begin to consider how they will implement a plan for gaining more understanding. This leads to their selection of one of the inquiry paths. Each of the instructional strategies for inquiry service-learning, action research, and self-directed inquiry are sound avenues for exploration and have been utilized in teacher education and in other disciplines. The following sections briefly describe the focus of the format for each inquiry choice.

Service-Learning

Service-learning projects are often selected when a student is focusing on a school community need. The National Service-Learning Clearinghouse (2005) defines service-learning as "a teaching and learning strategy that integrates

meaningful community service with instruction and reflection to enrich the learning experience, teach civic responsibility, and strengthen communities" (p. 1).

The elements of integrated learning, collaboration, civic responsibility, and reflection as suggested by Karayna and Gathercola (2005), are used to guide teacher candidates in designing and implementing their service-learning projects. The project must noticeably connect their learning and values from the college classroom to a well- articulated goal of the project. The service must respond to an actual school community need, and the project should direct benefits to the students and or community members. Clearly, the teacher candidates benefit in terms of their learning and empowerment. Civic responsibility and collaboration are essential elements to the project planning; implementation is considered in project reflections. The project timeline, implementation, results, and personal reflection must be shared with the cohort community, as part of their research outcome product as well as the public forum as an avenue of disseminating the teacher candidates' work.

Table 1: Course Elements and Outcome Products per Term

| Term | Inquiry Descriptor | Outcome Goal |
|------------|--|--|
| Term One | Inquiry Descriptor Readings and Discussions Observations and Discussions Wonderments and Exploration Community of Learners Inquiry Groups Shared Expertise Problem Solving Defining A Driving Question Beginning Review of Literature | Wonderments Reflection Inquiry Group Presentations and Problem Solving Annotated Bibliography Forming Inquiry Questions Determining Venue of Investigation (e.g. service-learning, action research, self-directed inquiry) |
| Term Two | Individual and Small Group Meetings Appointments Questions and Problem Solving Completing Review of Literature Writing a Proposal Finalizing a Implementation Plan | Question and Discussion Proposal Inquiry Project Plan Final Review of the Literature |
| Term Three | Implementation / Application Individual and Small Group Meetings Whole Group Instruction Analyzing and Discussing Results Preparing Paper and Presentation Establishing Professional Growth Plan Final Public Dissemination of Professional Work | Implementation Analysis and Discussion Final Paper Developing Presentation Final Presentation for the Teacher Education Symposium |

Action Research

Action research is a process that places the teacher candidate in the midst of learning while systematically applying research techniques to answer questions. It is not a direct application of scientific research but instead a process of evaluating and analyzing a practice that will serve to inform future classroom practice (Gould,

2008). Action research is a systematic and thoughtful analysis of a practice (Hubbard & Power, 1999) that is of interest to the teacher candidate and perhaps master teacher. It increases awareness and values while trying to establish an understanding of a research- based practice (Elliott, 2008, 2005).

Action research can serve as a pedagogical avenue to guide the teacher candidate, in the process of examining a particular educational practice using research techniques. The process of using action research for this yearlong course requirement begins with a question of wonderment and transforms into a systematic investigation to answer the question that is formulated and carried out in a classroom research project. The focus of action research in this setting is to engage in a process that will help to answer a question derived from the educational context. Engaging teacher candidates as they define such questions and explore possibilities in finding additional information to support their thoughts, allows for individual growth and understanding of educational practices that should affect future teaching. The sharing of these findings in both presentation and written form helps them to solidify what they have learned in an organized manner and subject it to others' questions and contributions.

Self-Directed Inquiry

Self-directed learning is a form of inquiry-based learning where the student directs inquiry to formulate questions and find answers about a subject of personal interest (Hutchinson, 2007). It provides the student with an avenue to investigate something personally and professionally relevant, devise questions that guide his or her inquiry, and aids in the construction of the knowledge in a personal and meaningful way. It is a powerful strategy for student-led learning which heavily relies on critical thinking skills and deep level learning (Roy, Borin, & Kustra, 2003). It is similar to problem-based learning but provides a more open approach to investigate a particular area of curiosity or need. In this tradition the course allows for questions to surface from a teacher candidate's personal need to know or do.

Measures and Products Analyzed

Professor Narratives

During the yearlong course, the facilitating professor assigned to the two cohorts kept a narrative class journal in which class events and reflections were recorded. The primary purpose was simply to see what developed as time passed and as a record of course topics, structure, delivery, reflection, and outcome was noted. The record of information was created in part to evaluate and to inform future sections of the course.

Student Reflections

Periodically, reflections on the process were obtained along with the final outcome products (i.e., papers or documents and presentations). These served as the data in which projects were classified and themes emerged in the teacher candidates' responses. In addition to these artifacts, the facilitator of the course and yearlong support person wrote short reflective evaluations that served to guide the process and were used primarily to shape the class experiences. Final course evaluations were also reviewed for student feedback and reflective evaluation of the course experiences.

Outcome Products

The final master's project presentation came in the form of a 30-minute session presentation, round table presentation, or poster presentation. The written component was in the form of either a paper or outcome artifact. The paper often followed the format of a research article or a project report which included common elements such as research base, rationale, procedure, and outcome findings. Other written outcome products were in the form of a final artifact that represented their self-directed inquiry project. These often took the form of a research paper, instructional manual, or review of knowledge and conclusion to a particular educational problem or concern.

Results and Discussion

Table 1 provides the term highlights and outcomes per term that were established from the professor's narrative record. Other elements identified in the parrative were as follows:

Term One

- In-class experiences are developing from focusing on the learner and moving outwardly to the classroom, school system and community.
- Students begin to question and wonder about the events in which they were engaged. They posed questions, held discussions, and eagerly gave opinions.
- Students are becoming much more comfortable with self-initiated exploration and sharing among themselves and with the facilitating professor.
- First term classes seem to have been primarily making connections between class experiences and field experiences that either connected or seemed to discount what they were learning. Many students became comfortable speculating about the differences, and rich conversations of wonderment evolved.
- Annotated bibliography outcomes differed in focus, length, and depth.
 They reflected a student's search for answers, sometimes not arriving at the appropriate information until late in the term.

Term Two

- The second term initial class was very productive, where students applied research readings to turning the wonderment into measureable guestions.
- The early outcome of term two was a proposal and timeline of their project.
- Individual appointments are heavily needed at this juncture (midterm of term two)

Term Three

- The final term, the heaviest in work load and more individual in nature, consisted of implementing their research-based service-learning, action research, or self-directed inquiry projects.
- Following the conclusion of their projects, candidates prepared a final outcome product that resulted in both a presentation and written outcome.
- In-class cohort presentations were superior in that they used it as a first run at disseminating their work. Teacher candidates were very supportive of each other in helping to improve delivery of information, adding needed

information and in avenues for sharing the final product. There was a direct connection between shared support and the changes made for the final presentations.

 Final dissemination among educators, community members, administrators, and classmates was rewarding for everyone in attendance.

Projects Final Outcome Products

Since the inception of the course, each term produces projects that fall under the main categories of service-learning, action research, or self-directed inquiry. Table 2 provides a few selected projects from each area identifying the outcome projects and the focus of the change agent derived from the experience. The selected projects show the common thread of either social justice or educational reform.

In reviewing the project completed in the two sections of the course, a total of 28 projects were submitted. Each project was identified as one of the three pedagogical categories of action research, research-based service-learning, or self-directed inquiry. Table 3 displays the percentages of students completing the various types of outcome projects per category.

In the two sections evaluated, 46% of the students conducted research-based service- learning projects, while 18% conducted action research projects and 36% of the students designed self-directed inquiry projects. Further analysis using the type of credential the candidates were seeking provided some direction in drawing conclusions about the reason for the chosen projects.

Of those students conducting service-learning projects, 85% (11 of 13) were placed in a professional development school setting which were yearlong student teaching placements that may have slightly increased the likelihood of a service project taking place. All of the students engaged with service-learning projects were multiple subject students who served in elementary schools. This could have contributed to selecting projects that could easily be implemented with a controlled population outside of a specific classroom setting. All of the service-learning projects served students and parents associated with a larger population than those students from the teacher candidates' student teaching placement.

Of the 18% (5 out of 28) students conducting action research projects, two students were multiple subject students placed at the elementary professional development school and three students were single subject students placed at different secondary school placements (non-PDS) teaching math and English. Of the 36% of students engaged in self-directed inquiry projects, all were single subject students placed in secondary placements, where they taught English, science, or history.

In comparing multiple and single subject students' choice of project, multiple subject students selected service-learning or action research projects, whereas single subject students selected either action research or self-directed inquiry projects. Single subject students are required to complete two placements, one at the middle school level and one at the high school level. Having less time to investigate the situation in which they were participating may have discouraged taking on service-learning projects.

Table 2: Final Inquiry Products

| Project Category | Project Area Description | Sample Outcome Projects | Change Agent Focus |
|-------------------------------|--|---|---|
| Action Research | Teacher candidate applied action research within the school system or school setting. | 1. Higher Education Parent Workshop: A parent workshop on setting higher education goals for their children. 2. A Study of Math Methods: Exploratory study of secondary math instruction. 3. Technology and Language Development: Project focused on using technology to motivate student language development and fluency. 4. Case Analysis of Secondary Education Problem Solving: An exploration of teachers collaborating within the system to meet needs of students in their classrooms. Final product outlines the process and final product solution to the identified problem | Social Justice, Equal Access to Education Secondary Instruction and Methods Social Justice, English Language Learners Education Reform to Meet Diverse Learners' |
| Service- Learning | Projects primarily focused on an identified question associated with a 'need' identified in the school. | 1. University Week: A weeklong, after school program focused on introducing upper elementary students and parents to college. 2. Five Week After School Program on Family Literacy and Nutrition, including family literacy experiences and providing groceries for families 3. School Talent Show: Instruction on producing a show culminating in a school wide and community production. 4. Serving the Sciences: A cross grade level and differential learning experience for elementary school children. | Needs Social Justice, Equal Access to Education Social Justice, English Language Learners Multiple Intelligences, Arts in Schools Social Justice and Promoting the Sciences |
| Self- Regulated Inquiry | Projects were personally formed and created by identified need of the teacher candidate. | 1. Differentiated Learning: How to meet the learning needs in secondary science classes. Curriculum Model for teaching Science at the Secondary Level. 2. Health Issues for Adolescent Girls: An Instructional Manual for Discussion Based Health Instruction. | Social Justice, Promoting Equal Access in Science Learning Social Justice and Adolescent Girl Health and Development |

Table 3: Percentages of Students Participating per Project Classifications

| Project Classification | Percentage of Students |
|--|------------------------|
| Research-Based Service-Learning Projects | 46% |
| Action Research Projects | 18% |
| Self-Directed Inquiry Projects | 36% |

The social justice change agent focus for each area varied. The majority (79%) of the projects fell into the realm of social justice where they addressed equal access, English language learners or educational reform. Only six (21%) of projects fell outside of the realm of social justice (projects not connected with social justice issues covered in their program). Those six projects focused on content area-specific action research or self-directed inquiry projects. Those conducting these six projects were all single subject teacher candidates.

Reflection: Student Perceptions of the Learning Process

Students pursuing their degree and credential in this one-year program put forth a great deal of effort and commitment to completing their individual goals. The transformational process that took place from a teaching and learning viewpoint is complex, where candidates pulled from courses, field experiences, community of learner discussions, and their selected projects, integrating these experiences to construct understanding of their teacher identities and roles as change agents in education.

A review of their reflections and final written documents for their outcome projects were the tools evaluated for themes. Students' perceptions about their experiences were expressed as deep, introspective, and integrative in nature.

Students shared a process where the project grew from a perceived 'need situation' based on their site placements where the need may be site specific or teacher candidate specific. If it was not based on a personal or site need, candidates began their project development from college course content and discussions which became entwined with their observations of practice. In either case, students expressed considerable

Student perceptions of their experiences followed four themes: personal integrity, knowledge, future direction in educational change, and personal change.

satisfaction and competency as future educators with the ability to promote change. Student perceptions of their experiences followed four themes found in

their discussions: personal integrity, knowledge, future direction in educational change, and personal change. Within the reflection pieces that accompanied their final products, 98% of the students mentioned personal change, 87% addressed future direction as a change agent, 82% addressed educational knowledge as a primary response, and 76% shared contents that focused on personal integrity.

Concluding Summary and Remarks

The intent for the yearlong course to develop a sense of identity, vocation, and inquiry was evident in the student projects, discussions, and final reflections. The observed communication among teacher candidates, community members, educators, and instructors were consistent with this conclusion as observed during the final public forum for sharing their work. Master teachers, administrators, and field supervisors informally made comments related to the teacher candidates as being highly motivated and personally committed to making positive changes in education.

Teaching and learning is a deeply personal and social act of preparing students to 'own' their knowledge. The application of the teaching-learning approaches of service-learning, action research, and self-directed inquiry in the midst of exploring problems or project-based experiences should be helpful in any course where high engagement, problem solving, and application are primary goals. It opens the realm of exploring how future practitioners in any field think and adopt a professional identity of engagement and change. The course exploration should provide a blueprint for other courses designed to shape teacher identity, and serve as a resource for application to other practice-oriented academic areas.

The perspective presented in this course and its contribution to the students' masters' experience has suggested that service-learning, action research, and self-directed inquiry projects are strong avenues for developing students' knowledge and teacher identity. The course is an effective way to get students personally engaged as learners and prepared to take on the role of a change agent in education.

In reviewing the course evaluations, students rated highly their abilities to problem solve, competencies in understanding the teaching and learning environment and often reported themselves as growing, capable educators who could make an educational difference in the future.

References

Beijaard, D., Meijer, P., & Verloop, N. (2004). Reconsidering research on teachers' professional identity. *Teaching and Teacher Education*, 20(2), 107-119.

Britzman, D. (2003). *Practice makes practice: A critical study of learning to teach*. Albany, NY: State University of New York Press.

Britzman, D. P. (1994). Is there a problem with knowing thyself? Toward a poststructuralist view of teacher identity. In T. Shanahan (Ed.), Teachers thinking, teachers knowing: Reflections on literacy and language education (pp. 53-75). Urbana, IL: National Council of Teachers of English.

Bullough, R., Knowles, J., & Crow (1992). *Emerging as a Teacher*, London, UK: Routledge.

Bullough, R., & Knowles, J. (1991). Teaching and nurturing: Changing conceptions of self as teacher in a case study of becoming a teacher. *International Journal of Qualitative Studies in Education*, 4(2), 121-140.

Campbell, S. (2005). Ariadne's thread: Pre-service teachers, stories and identities in teacher education. Unpublished doctoral dissertation, University of Colorado at Boulder.

Clandinin, D. & Connelly, E. (1996). Teachers' professional knowledge landscapes: Teacher stories--stories of teachers, school stories-stories of schools. *Educational Researcher*, 25(3), 24-30.

Clandinin, D. (1986). *Classroom practice: Teacher images in action.* London, UK: Falmer Press.

Cooper, K., & Olson, M. (1996). The multiple 'I's of teacher identity. In M. Kompf, D. Dworet, & R. Boak (Eds.), *Changing research and practice* (pp. 78-89). London: Falmer Press.

Darling-Hammond, L. & Bransford, J. (2005). Preparing Teachers for a Changing World. San Francisco, CA: Jossey-Bass.

Elliott, J. (2008). 'The Birth of a School Academy in North Norwich: a case study', *Forum*, 50 (3), 18-22.

Elliott, J. (2005). 'Becoming Critical: the failure to connect', in *Educational Action Research*, 13 (3).

French, J. (2005). Culturally responsive pre-service teacher development: A case study of the impact of community and school fieldwork. Unpublished doctoral dissertation, University of Connecticut.

Gould, M. A. (2008). Teacher as Researcher; A paradigm for professional development. *Kappa Delta Pi Record*, 45(1), p5-7.

Hoffman-Kipp, P. (2008). Actualizing democracy: the praxis of teacher identity construction. *Teacher Education Quarterly* 35(30),151-160.

Hollins, E., & Guzman, M. (2005). Research on preparing teachers for diverse populations. In M. Cochran-Smith & K.M. Zeicher (Eds.), Studying teacher education: The report of the AERA panel on research and teacher education (pp. 477-548). Mahwah, NJ: Lawrence Erlbaum Associates.

Hubbard, R. & Power, B. (1999). Living the questions: A guide for teacher researchers. Portland, ME: Stenhouse.

Hutchings, B. (2007). *Enquiry-based Learning: Definitions and Rationale*. University of Manchester, UK.

Karayan, S. & Gathercoal, P. (2005). Assessing service-learning in teacher education. *Teacher Education Quarterly*, 32(3), 79-82.

Knowles, J. G. (1992). Models for understanding preservice and beginning teachers' biographies: Illustrations from case studies. In I. Goodson (Ed.) *StudyingTeachers' Lives*. Columbia University, NY: Teachers College Press. 99-153.

National Service-Learning Clearinghouse. (2005). Servicelearning is.... Retrieved May 15, 2009 from http://servicelearning.org/whatservice-learning

Roy, D., Borin, P. & Kustra, E. (2003), What Is Unique about Inquiry Courses? Center for Leadership in Learning, McMaster University, Canada, Retrieved April 9, 2009 from http://www.mcmaster.ca/cll/inquiry/good.inquiry.question.htm

Shulman, L. S. (2005). Signature pedagogies in the professions. *Daedalus, Journal of the American Academy of Arts and Sciences,* 134(3), 52-59.

Vinz, R. (1996). *Composing a teaching life*. Portsmouth, NH: Boynton/Cook

Kathy L. Church is an Associate Professor in the Graduate School of Education and Psychology at Pepperdine University. She received the Howard A. White Award for Teaching Excellence and has presented nationally and internationally. Her research interests include teaching and learning, student engagement and teacher identity.

Serve, Teach, and Lead: It's All about Relationships

Carolyn Crippen, PhD
Associate Professor, Department of Educational Psychology
University of Victoria, Canada

Once a person assumes the mantle of teacher, one becomes a leader, first, in the classroom and then in the school (Crippen, 2005). With this position comes a delicate power and responsibility to the moral imperative. As such, this issue is critical as a component of teacher preparation programs. Goodlad (2004) sounds the alarm that our teacher preparation programs are remiss in responding to the need for moral literacy in our schools. The following paper will introduce the philosophy of servant-leadership, a moral way of serving, as defined by Robert K. Greenleaf (1970/1991) and will respond to Goodlad's call with possibilities for preservice teachers that help them examine and define their role in contributing to the common good through servant-leadership.

A servant-leader is servant first. It begins with the natural feeling that one wants to serve. Then conscious choice brings one to aspire to lead. The difference manifests itself in the care taken by the servant- first, to make sure that other people's highest priority needs are being served. The best test is: do those served grow as persons; do they while being served, become healthier, wiser, freer, more autonomous, more likely themselves to become servants? And what of the least privileged in society: will they benefit, or at least, not be further deprived? (Greenleaf, 1970/1991, p. 7)

My experiences as a classroom teacher, principal, school superintendent, and education faculty member have provided me with a broad and privileged perspective on teacher education. Today there is an emphasis on the development of democratic learning environments within educational organizations where teacher-leaders reflect an authentic attitude in their professional behavior. Crippen (2005) writes that once you assume the mantle of teacher, you become a leader in your classroom and then in your school and learning community. Such leadership situations provide an opportunity to contribute to the moral ethos of that learning

environment. Goodlad, Mantle-Bromley, & Goodlad (2004) believe that school teaching and leadership are moral endeavors and that preservice teacher education programs seldom address the needs for moral leadership in democratic schools. Fullan (2003) reminds us, "One of the great

Teaching is all about making connections with people. It is about relationships and investment in others and their future and ours.

strengths one needs, especially in troubled times, is a strong sense of moral purpose" (p. 19), and Sergiovanni (1992) echoes these values, with his idea, "Our goal should be to develop a leadership practice based on professional moral authority" (p. 29). Teaching is all about making connections with people. It is about relationships and investment in others and their future and ours. In terms of teacher preservice training and its relationship to students in the schools, we are reminded by Glickman, Gordon, & Ross Gordon (2005) of our ultimate responsibility: "In a democratic society, it is vital that students learn to think reflectively, function at high stages of moral reasoning, and be autonomous decision makers" (p. 156). And, with these expectations of moral responsibility and deliberate steps toward school democratization, the leadership beliefs and values of

those that aspire and enter the teaching profession become critical for faculties of education and teacher education programs to consider and to develop (Crippen, 2007; Goodman & Balamore, 2003; Pajares, 1992). Only by carefully analyzing your beliefs and values can you model and help develop moral literacy (Herman, 2007; Tuana, 2007) with your students. Moral literacy involves a search for knowledge about moral issues; a development of moral reasoning; and the cultivation of moral virtues (Tuana. 2003). In fact, such personal reflection is critical for every teacher, regardless of how long they have been in the teaching profession. My question is: Where are you now (with your investment in the moral imperative)? The following

paper is a response to the recognized need for moral leadership development in teacher education programs through the introduction of a philosophy of moral leadership, i.e., servant-leadership, which enables preservice teachers (and all teachers) to carefully deconstruct their value and belief systems and

Personal reflection is critical for every teacher, regardless of how long they have been in the teaching profession.

to examine their raison d'etre. Within the paper are suggestions for integration of moral literacy through reflective thought, careful listening, collaboration, lateralization of leadership, encouraging the growth of others, and the building of democratic communities. While servant-leadership contributes to the scholarship of teaching and learning excellence, it ultimately responds to the moral imperative and to concerns expressed by Goodlad et al., (2004).

Background

During the 1980s, as a classroom teacher and later as a consultant with the Carleton Board of Education (Ottawa, Ontario), I became acquainted with the writing of Robert Kiefner Greenleaf (1904-1990) and his philosophy of servant-leadership. Greenleaf's ideas resonated with me. Greenleaf was interested in developing caring, collaborative, inclusive communities. He worked with business, industry, and educational institutions, particularly in the U.S. In 1970, at the age of sixty-six, Greenleaf wrote a 37-page essay, *The Servant as Leader*, which identified a way of serving and leading and following. He believed that in order for one to lead, one first had to want to serve others, not for profit or gain of any sort, but simply because one wanted to do so; it was an intrinsic feeling. That desire for service, and action, was the right thing to do. I would suggest that teachers often fall into this category of serving, leading, and following. Good leaders must also be good followers.

As our schools move toward a more democratic way of working, it seems logical that a positive mindset toward service, leadership, and followership in teacher education would be a starting point. Perhaps servant-leadership can provide the seeds for enabling preservice teachers to become effective, caring, moral leaders.

Servant-Leadership

The term "servant-leadership" was introduced by Greenleaf, as noted, in his first essay entitled, *The Servant as Leader* (1970/1991). He tells of discovering the concept of servant-leadership through reading *Journey to the East* by Herman Hesse, (1956/1992), the story of a band of men who set out on a long journey. Accompanying the men is a fellow named Leo whose job is to care for the band of men by doing all of the menial chores and providing for their comfort. The journey progresses well until Leo disappears. At this point, the men fall into disarray and the journey is aborted.

Many years later, the narrator of the story encounters Leo and discovers that Leo's service is intrinsic and comes from his heart. But, Leo is actually the titular head of the organization that has sponsored the journey. Greenleaf saw in this story the message that one must first serve society, and through that service, regardless of position, a person will be recognized as a leader. There are servant-leaders everywhere, but because they do not seek personal recognition, they often just go about their business in a quiet fashion. "Effective servant-leaders can be so subtle about it that all anybody is likely to see is the result. They don't see the cause" (Greenleaf, 2002, p.151).

Working with educational, business and industrial organizations, Greenleaf's goal was to develop strong, effective, caring communities in all segments of society – a goal that is consistent with a commitment to effective schools, but one that requires time in which to develop the necessary servant-leader qualities. Goodlad (2004), who has been involved in studying preservice teacher education programs for many years, reminds us that "Students need to be involved with adults who care deeply for their well-being" (p. 127) and "They need to recognize and ultimately embrace the kind of humility that accompanies a willingness and preparedness to learn" (p. 127).

Servant-Leader Characteristics

Larry Spears (1998a), the former Executive Director of the *Robert K. Greenleaf Center* in Indianapolis, describes ten characteristics of servant-leadership found in Greenleaf's writing, and Barbuto and Wheeler from the University of Nebraska have identified an eleventh characteristic (Sipe & Frick, 2009). These characteristics relate directly to teachers, classrooms, and learning communities. Let us look briefly at each of the eleven characteristics as it relates to teacher education programs. The first ten belong to Spears (1998a) and the eleventh to Barbuto & Wheeler.

Listening

Effective educational leaders are great communicators and must be good listeners, to themselves (through their inner voice), as well as to others. This refers to a deep commitment to listen to others. Greenleaf states, "A true natural servant automatically responds to any problem by listening first" (Sipe & Fink, 2009, p. 45). Proponents of the servant-leadership model emphasize the need for silence, reflection, meditation, active listening, and actually "hearing" both what is said and what is unsaid. The best communication forces you to listen (DePree, 1989). Sipe & Frick (2009) carefully describe the active listening process:

Active listeners not only listen to the speaker's words, but also watch for and listen to the speaker's important nonverbal cues—body language, gestures, facial expressions, tone of voice. Their body language demonstrates that they are paying careful attention to the speaker, choosing to be intimately involved with the speaker's experience at that very moment. Let's just call it, "being with". (p. 60)

I would call this being in the moment.

It is critical to preservice teachers that time is provided for them to examine their values and beliefs and classroom experiences carefully. If they do not do so, any change to their belief system and their practice is unlikely to occur. Such self-reflection can take the form of journaling or small group sharing. This is a worthwhile activity for all students and allows them to analyze their thought development over time. Also, during all interactions, i.e., student discussion,

mentor-mentee sharing, case conferences, parent meetings, telephone conversations, etc., there is vigilant listening and "accurate" hearing in these conversations. Sergiovanni (1992) says that what students want more than anything else is to be listened to, and this seems to be the greatest investment all teachers can give students—their time. Often during seminars or university course sessions, I ask the students to tell, what did you hear in your group? They do not have to mention anyone by name, simply the information. Next, I ask if anyone from that group wishes to add information or clarify what was heard or said. This promotes careful reflection and seems to help intensify the quality of listening within the university classroom. By the end of the course, the responses are lengthier, more articulate and detailed in substance.

Empathy

A good servant-leader strives to understand and empathize with others. But this understanding should be supportive as opposed to patronizing; "It is a misuse of our power (as leaders) to take responsibility for solving problems that

belong to others" (Block, 1993/1996, p. 7). Compassion and empathy can help develop a positive home-school relationship. Parents appreciate a caring and sensitive attitude from all school personnel, especially their child's

A good servant-leader strives to understand and empathize with others.

teacher. Preservice teachers need time to develop such skills and to gain confidence in interacting with school stakeholders. Most preservice teachers are in *survival mode* (Naested, Potvin, & Waldron, 2004), going day to day, as they learn and grow in their profession. I would suggest that all recent graduates are trying to keep their heads above water in any new job or situation. Teacher education faculty members and preservice teachers may gain valuable insight from Greenleaf's comments explaining the relationship between empathy and the development of trust.

Individuals grow taller when those who lead them empathize and when they are accepted for what they are, even though their performance may be judged critically in terms of what they are capable of doing. Leaders who empathize and who fully accept those who go with them on this basis are more likely to be trusted (Spears, 1998a, p.81).

Healing

Servant-leaders have the potential to heal both themselves and others. A happy, positive school environment, where staff, students, and parents feel welcome, creates a sense of wellness. Healthy leaders cannot always find followers. Sturnick (1998) states, "sick organizations really do contaminate" (p. 191). Sergiovanni (1992) mentions that there are many students in pain in our schools, and a kind, caring word from a teacher can make the difference in their day. Many preservice teachers who not long ago were students in the K-12 school system can relate easily to the students in the classroom. Over the years, I have found preservice teachers anxious to understand issues such as suicide, death, drug addiction, sexual abuse, physical violence, poverty, and other crises. When they return from their first placement in the field, the questions around these topics surface. Teacher education programs must respond to these legitimate concerns by bringing in experts in these areas or by integrating such topics into the educational psychology course offerings.

Awareness

Servant-leaders develop general awareness, especially self-awareness, through self-reflection, by listening to what others say about them, by being continually open to learning, and by making the connection between what they know and believe and what they say or do. "Awareness also aids one in understanding issues involving ethics and values. It lends itself to being able to view most situations from a more integrated, holistic position" (Spears, 1998b, p. 6). An opportunity for dialogue about educational practice is critical in dealing with the needs of preservice teachers. Effective and supportive programs require ongoing checks that provide opportunity for revisions or redirection when needed. Professional development, guest speakers, study groups, peer discussions, and committee meetings permit preservice teachers to observe and absorb ideas from their colleagues. Importantly, for all educators, we must become *students* of our *students*. We must observe and listen carefully to our students so that we may come to know them and to establish a caring relationship with them. These actions help preservice teachers develop awareness.

Persuasion

The servant-leader seeks to convince others, rather than coerce compliance. Coercion involves an abuse of power. Servant-leaders are willing to take the time for consensus building through a sharing of power within the group. Everyone has voice. Greenleaf explains persuasion.

One is persuaded upon arriving at a feeling of rightness about a belief or action through one's own intuitive sense, persuasion is usually too undramatic to be newsworthy....Significant instances of persuasion may be known to only one or a few, and they are rarely noted in history. Simply put, consensus is a method of using persuasion in a group. (Frick & Spears, 1996, p. 139-140)

We are all just *a mess of stories* and we must tell and share these stories with each other. "Stories encode the values of a person and an organization" (Sipe & Frick, 2009, p. 75), and "If you want to shape a servant-led culture, begin by telling stories of serving that inform, entertain and, most of all, inspire" (p. 75). Goodlad (2005) explains the results of Howard Gardner's (1995) research into persuasive direct leaders (I would include preservice teachers as direct leaders):

...live their lives in accordance with their stories. In other words, they need to lead by example. Such leaders model and embody the values and behaviors they are trying to instill in others, whether such values and behaviors are, for instance, open inquiry, risk taking, or simply valuing life as a learning process. (p. 133)

When preservice teachers return to the university after being on practicum, I always use the first class we are back together to debrief and to tell our stories. In my experience, these sessions are always high energy, exciting, intense, and continue until the last minute of class.

Conceptualization

Servant-leaders seek to nurture their own abilities to dream great dreams. Greenleaf (cited in Frick & Spears, 1996) describes conceptual talent as:

The ability to see the whole in the perspective of history—past and future—to state and adjust goals, to evaluate, to analyze, and to foresee contingencies a long way ahead. Leadership, in the sense of going out ahead to show the way, is more conceptual than

operating. The conceptualizer, at his or her best, is a persuader and a relation builder. (p. 217)

I would suggest that conceptualization is "having a big-picture perspective." Preservice teachers are immersed into a school curriculum that has deadlines for reporting and timelines for assignments and bells to control the beginning and ending to the school day. Being able to conceptualize the lesson, the day, and the week becomes paramount to their ability to succeed in the school setting. One must look beyond the day-to-day (immediate) realities of the classroom to the long-term repercussions of learning needs (Spears, 1998b). Considerable practice over time will fine-tune this ability.

Foresight

Greenleaf refers to this ability to foresee or know the likely outcome of a situation as a better-than-average guess about "what" is going to happen "when", in the future. Experience plays the greatest part in the preservice teacher development of foresight when working with students in the classroom and answering questions such as: How can a student be accommodated in a sensible and realistic way? What barriers could exist to prevent success? What necessary supports must be in place? Greenleaf (1991) says foresight is "the lead that a leader has" and goes on to state:

Foresight means regarding the events of the instant moment and constantly comparing them with a series of projections made in the past and at the same time projecting future events—with diminishing certainty as projected time runs out into the indefinite future. (p.18)

I believe preservice teachers develop considerable foresight as they progress through teacher preparation programs. Their foresight relates to their prior experience in working with children, especially in structured situations, i.e., teaching dance or piano lessons; working as a hockey coach; leading a camping group. At the conclusion of several classes each term, I require a *one-minute paper* from my preservice teachers. The topic is: What did I learn today? This brief assignment provides metacognition for the preservice teacher; it also delivers valuable information to the instructor, i.e., issues of concern, future direction, pacing, strengths and challenges of particular topics.

Stewardship

Greenleaf believed all members of an institution or organization play significant roles in caring for the well-being of the institution and serving the needs of others in the institution, for the greater good of society. Sergiovanni (1992) explains that stewardship "involves the leader's personal responsibility to manage

her or his life and affairs with proper regard for the rights of other people and for the common welfare" (p. 139). Effective schools provide an environment for the common good of all students, regardless of their particular needs. Preservice teachers might take counsel from Wheatley (2006), "...if we hear

Effective schools provide an environment for the common good of all students, regardless of their particular needs.

our colleagues speak about their own yearnings to make a small difference, we feel new energy for the work and for each other. The call of meaning is unlike any other" (p. 133). Servant-leaders simply do because it is right, a moral obligation.

Commitment to the growth of others

Servant-leaders are committed to the individual growth of human beings and will do everything they can to nurture others. DePree (1989) writes: "The signs of outstanding leadership appear primarily among the followers. Are the followers reaching their potential? Are they learning? Serving?" (p. 12). Johnston (2006) is clear in her support for learning about moral responsibility: "I believe that in both pre- and in-service education, we must include multiple conversations about what is moral and how what is moral fits into public education" (p. 59). The purpose of our schools is simply the promotion of the growth of others. But Fullan (2005) is more specific; he identifies three areas of growth in schools: academic, personal, and social. Ultimately, the goal for all those involved in education programs should be the development of positive, participating citizens. "Ask yourself what are three things I can do this week to hold myself accountable for the growth of others?" (Sipe & Frick, 2009, p. 172). Greenleaf (1977) speaks directly to all teachers:

Many teachers have sufficient latitude in dealing with students that they could, on their own, help nurture the servant leader potential, which I believe, is latent to some degree in almost every young person. Could not many respected teachers speak those few words that might change the course of life, or give it new purpose? (p. 5)

Building community

The servant-leader seeks to identify some means for building community. "Community means acknowledging that we are in a relationship with one another" (Johnston, 2006, p. 73). Wheatley (2006) adds, "We are constantly called to be in relationship—to information, people, events, ideas, life" (p. 145). Sergiovanni (1994) adds the importance of caring as "an integral part of shared community" (p. 146). And additional words from Margaret Wheatley (2007) stress the importance of relationships: "And people learn best in community, when they are engaged with one another, when everyone is both student and teacher, expert and apprentice, in a rich exchange of experiences and learning" (p. 173). We want all our children to feel wanted and treated as valuable, capable, and responsible within the school community (Crippen, 2005).

Calling

A servant-leader wants to make a difference for others and to have an impact on their lives. They will sacrifice their own self-interests for the sake of others. They choose "to lead as a servant, to risk mistakes and achievements" (Sipe

& Frick, 2009, p. 37). Fullan (2005) asks directly what is motivating you to make a difference. Preservice teachers might ponder this question. One of the standard questions directed toward preservice teachers in class or during intake interviews into the teacher

A servant-leader wants to make a difference for others and to have an impact on their lives.

education program is: Why did you want to become a teacher? Responses frequently contain references to a calling, a wanting to make a difference, to being a part of the moral imperative. Digging more deeply into this question through whole class discussion may prove enlightening to faculty and preservice teachers. Why do they think they have such a calling? How was this call to service nourished in their lives? Could any of what they learn from the discussion be transferred into their own future classrooms?

Conclusion

In 1997 the concept of servant-leadership was introduced to educators in central Manitoba at the Parkland Leadership Academy. Over the past seven years, well over 1200 people in Manitoba have learned and /or studied the writings of Greenleaf and his philosophy of servant-leadership. But Greenleaf (cited in Frick & Spears, 1996) comments candidly to those involved in all types of organizations about the importance of servant-leaders:

This is not a bandwagon idea; it is not a best-seller kind of thing; but nevertheless, these people (servant-leaders) do exist, and some of them have become very important to me. (p. 343) And,

The difference between organizations is how people relate and how they actually function, which may not bear a whole lot of relationship to how the thing is sketched out on paper. (p. 347)

The Manitoba Association of School Trustees (MAST) brought servant-leadership to the attention of over 400 trustees at their annual fall conference (2002). During summer 2003, the annual Canadian School Board Association Congress was held in Winnipeg, and two sessions were presented on Servant-Leadership to sixty trustees and superintendents from across Canada.

In addition, several education courses at the University of Manitoba, Faculty of Education, included books by Greenleaf as part of required readings, reflection, and analysis in undergraduate, post baccalaureate, and graduate courses. These university courses have been repeated several times. A Servant-Leadership Course has been added to the Education graduate course offerings at the University of Victoria. It has run twice to capacity classes. An entire school district in Victoria focused the keynote for their professional development day on servant-leadership and added two additional workshops (one for elementary and one for secondary teachers). As this paper was being written, two students are involved in independent research that connects servant-leadership to the university campus and to the community at large. Networks of teachers and administrators are proposing Greenleaf study groups; three novice teachers have applied successfully for funding to initiate in-depth, long- term implementation of the Greenleaf philosophy into their middle schools. Their kick-off evening was well-attended and supported the making of webs of relations. Wheatley (2006) speaks wisely to all educators across faculties:

Most of us have had the experience of touching a spider web, feeling its resiliency, noticing how slight pressure in one area jiggles the entire web. If a web breaks and needs repair, the spider doesn't cut out a piece, terminate it, or tear the entire web apart and reorganize it. She reweaves it, using the silken relationships that are already there, creating stronger connections across the weakened spaces. (p. 145)

It seems to me that it is an honor and a privilege to stand before a class of students. At the same time, there is a heavy moral responsibility to contribute to the moral imperative. The servant-leadership paradigm is one way to create a strong foundation for moral literacy and caring learning communities among all post secondary faculty in our colleges and universities. Servant-leadership situates itself comfortably within the scholarship of teaching and learning as well as serving and leading. And, it also responds to Goodlad's concerns for attention to moral leadership in teacher education programs. Servant-leadership is real and the ripple effect has begun. Where are you now in contributing to that moral endeavor?

References

Block, P. (1993/1996). Stewardship: Choosing service over self-interest. San Francisco, CA: Berrett-Koehler Publishers.

Crippen, C. (December 5, 2005). The democratic school: First to serve, then to lead. *The Canadian Journal of Educational Administration and Policy*, Issue 47.

Crippen, C. (2007). Teacher-candidate perceptions of educational leadership. Democratization in Manitoba schools. *WestCAST Conference 2007*. Winnipeg, MB: University of Manitoba.

DePree, M. (1989). *Leadership is an art*. New York, NY: Dell Publishing Group.

Frick, D. & Spears, L. (Eds.). (1996). The private writing of Robert K. Greenleaf: On becoming a servant leader. San Francisco. CA: Jossey-Bass.

Fullan, M. (2003). *The moral imperative of school leadership*. CA: Corwin Press.

Gabriel, J. (2005). *How to thrive as a teacher leader*. Alexandria, VA: Association for Supervision and Curriculum Development.

Glickman, C., Gordon, S., & Ross Gordon, J. (2005). The basic guide to supervision and instructional leadership. Toronto, ON: Pearson Education.

Goodlad, J., Soder, R., & Sirotnik. (Eds.). (1990). *The moral dimension of teaching.* San Francisco, CA: Jossey-Bass.

Goodlad, J., Mantle-Bromley, C., & Goodlad, S. (2004). Education for everyone: Agenda for education in a democracy. San Francisco, CA: Jossey-Bass.

Goodman, J. & Balamore, U. (2003). Teaching goodness: Engaging the moral and academic promise of young children. Toronto, ON: Pearson Education Canada.

Greenleaf, R. (1977). Servant leadership. Mahwah, NJ: Paulist Press.

Greenleaf, R. (1991). *Advice to servants*. Indianapolis, IN: Robert K. Greenleaf Center.

Greenleaf, R. (2002). *Teacher as* servant: A parable. Indianapolis, IN: Robert K. Greenleaf Center.

Greenleaf, R. (1970/1991). *The* servant as leader. Indianapolis, IN: Robert K. Greenleaf Center.

Herman, B. (2007). *Moral literacy*. Cambridge, MA: Harvard University Press.

Hesse, H. (1956/1992). *Journey to the east*. New York, NY: Noonday Press.

Johnston, D. (2006). Education for a changing society: Classroom relationships and moral action. New York, NY: Teachers College Press.

Naested, I., Potvin, B., & Waldron, P. (2004). *Understanding the landscape of teaching*. Toronto, ON: Pearson Publishing.

Pajares, F. (Fall, 1992). Teacher beliefs and educational research: Cleaning up a messy construct. Review of Educational Research.

Sergiovanni, T. (1992). *Moral leadership*. San Francisco, CA: Jossey-Bass.

Sergiovanni, T. (1994). *Building community in schools*. San Francisco, CA: Jossey-Bass.

Sipe, J. & Frick, D. (2009). Seven pillars of servant leadership: Practicing the wisdom of leading by serving. Mahwah, NJ:Paulist Press.

Spears, L. (Ed.). (1998a). Insights on leadership: Service, stewardship, spirit and servant-leadership.
Toronto, ON: John Wiley & Sons, Inc.

Spears, L. (Ed.). (1998b). Robert K. Greenleaf: The power of servant leadership. San Francisco, CA: Berrett-Koehler Publishers, Inc.

Sturnick, J. (1998). Healing leadership. In L Spears. (Ed.) Insights on leadership: Service, stewardship, spirit and servant-leadership. Toronto, ON: John Wiley & Sons, Inc.

Tuana, N. (2007). Conceptualizing moral literacy. *Journal of Educational Administration*, 45 (4) 364-378.

Tuana, N. (May, 2003). *Moral literacy*. Penn State On-Line Research, 24(2). Retrieved from www.ed.psu.edu/educ/pssc/publicati ons/Moral%20Literacy%20Beacon%2 0in%20Publisher %20V3%.

Wheatley, M. (2007). Finding our way: Leadership for an uncertain time. Berkeley, CA: Berrett-Koehler Publ., Inc.

Wheatley, M. (2006). Leadership and the new science: Discovering order in a chaotic world. 3rd ed. San Francisco, CA: Berrett-Koehler Publishers, Inc.

Carolyn Crippen (BA- Carleton, MEd- Ottawa, PhD- North Dakota) is Associate Professor of Leadership Studies in the Faculty of Education, University of Victoria, British Columbia, Canada. She was the former Assistant Dean of Education at the University of Manitoba. Prior to entering the academy, she had a lengthy career in the public school systems as teacher, principal, consultant, and school superintendent. Carolyn's areas of research include servant-leadership, teacher education, and school administration. Carolyn has published widely and presented nationally and internationally, most recently in Switzerland and Iceland.

LITERACY AND ART: COLLAGE FOR PRE-SERVICE TEACHERS

Alice J. Feret, EdD
Associate Professor of Reading, College of Education
East Carolina University

Judith J. Smith, EdD
Assistant Professor of Elementary Education, College of Education
East Carolina University

Art educators have a unique opportunity to develop and strengthen a crosscurricular foundation in literacy through art education. Enrolled in a content area reading course, pre-service teachers in art education at one, large southeastern university discovered that using language skills as a lens sharpened their observations of student performance in art classes at the elementary and high school levels.

The inclusion of brief lessons featuring listening, reading, speaking, or writing strategies revealed unanticipated academic needs, which impacted classroom performance and artistic development. This increased awareness deepened preservice teachers' understanding of young students as learners and allowed the preservice teachers to adjust their lesson planning and classroom management skills. The pre-service teachers were more confident in their practice as they witnessed the results of their efforts in terms of students' improved levels of artistic achievements.

Educators across all disciplines are findings ways to develop and strengthen a cross-curricular foundation in literacy. Whether in fine arts, health, mathematics, physical education, science, or social studies, teachers assist students in gaining knowledge of texts they encounter in accordance with the Australian Department of Education's Literacy Policy (1997), which states:

Literacy...includes the cultural knowledge which enables a speaker, writer or reader to recognize and use language appropriate to different social situations. (Students) learn about the power of language to convey explicit and implicit meanings and layers of meaning, and they develop the capacity to discuss and analyze texts and language. (p. 9)

Students look critically at multimedia, performance, spoken, visual, and written texts that question and challenge attitudes, beliefs, and values to make meaning from the array of musical, multimedia, sound, visual imagery, and virtual worlds that confront everyone. Mindful of each challenge for seasoned teachers, the researchers in this study focused on pre-service teachers, as they investigated the

question: How should literacy pervade curricula specifically in art education?

The concept of integrating language arts objectives with specialty subject areas like art began to appear in the literature in the late 1990's, as an outgrowth of the National Standards for Arts Education, (1994). That document identified the knowledge and skills basic to competencies in the arts and highlighted a "positive correlation between a substantive education in the arts and student achievement in other subjects and on

Students look critically at multimedia, performance, spoken, visual, and written texts that question and challenge attitudes, beliefs, and values to make meaning from the array of musical, multimedia, sound, visual imagery, and virtual worlds that confront everyone.

standardized tests" (p. 7). With the Goals 2000: Educate America Act (1994) federal mandate, art education attained legitimacy as a core subject, emerging from the sideline to which American education regularly relegates the fine arts during cyclical debates over public funding.

During this same decade, a stream of various "report cards" [from the National Center for Educational Statistics, the National Reading Panel et al (*Reading Today*, p. 4)] detailed the nation's literacy levels; and legislation underscored the obligation of public schools to raise the literacy level of all students (*NCLB*, 2002). "Reading Across the Curriculum," an inter-disciplinary staple of literacy learning in progressive school districts nationwide, suddenly became the norm.

Public school art educators saw this as a surprising reversal. Long accustomed to collaborating with content area teachers in order to support and justify the continued existence of art in school curricula, educators now faced a shift from integrating the arts *into* educational programming to reinforcing basic language arts skills *within* art classes.

Stewart and O'Brien (1989) reported that most secondary teachers felt not only unwilling but also inadequately prepared to teach communication skills (p. 397); likewise, public school faculty and state departments of education grappled with implementation of these updated standards for the new century. Similarly, university teacher-preparation programs sought to align their courses of study with a cross-curricular literacy focus.

The insertion of literacy objectives into graduation requirements for teacher preparation programs affected education majors in all content areas. The current study investigated how pre-service art teachers learned to blend literacy lessons with art foci for public school students at one NCATE (North Carolina Association of Teacher Educators) approved college of education. In particular, the study examined the outcomes of integrating three consecutive lessons in listening, reading, writing or speaking on pre-service art teachers in elementary and high school placements.

Why should literacy pervade curricula?

According to Hladczuk and Eller (1992), literacy is "the vehicle of education, the means through which ideas, information, knowledge and wisdom are expressed and exchanged" (p. ix). Literate individuals possess the capacity to function fully in society: to make reasoned choices, to acquire meaningful employment, to participate in civic affairs.

Reading and writing represent literacy in its most familiar forms: the

process of scanning letters or symbols to gain meaning and the recording of thought in somewhat permanent form. Listening and speaking is the second pair of language skills that identify a literate people. Speech is a mode of oral communication, expressing thought; listening assumes a thoughtful consideration of sound, whether verbal or

Literate individuals possess the capacity to function fully in society: to make reasoned choices, to acquire meaningful employment, to participate in civic affairs.

artistic. Listening is also an attribute of student conduct, the core of classroom management plans. In tandem, these four literacy processes shape cognition.

However, Ryan (1992) stated, "[t]he most fundamental educational skill is not reading, but thinking. Reading is important precisely because it provides food for thought in nourishing doses" (p. xii). Since democratic government depends on informed participation of its citizenry, reading in America has long been "our common concern and collective responsibility" (Ryan, 1992, p. ix). National legislation now in place (U.S. Department of Education, 2002) offers federal grant

money to states, providing they screen children at risk for reading failure and comply with strictly defined remediation and assessment measures. School districts in participating states have required the help of all faculty members in concerted efforts to raise standardized test scores by teaching reading and writing across all disciplines.

The current United States educational emphasis on the fields of science, technology, engineering, and math (STEM, 2008) offers great potential for maximizing not only students' understanding of specific content-related ideas and concepts but also their engagement as readers and writers (Atkinson et al., 2009). Since the same skills and strategies are fundamental to reading comprehension regardless of the subject area, teachers can explicitly model how to activate background knowledge, clarify, question, predict what will happen, and summarize information within these content areas.

The National Council of Teachers of Mathematics (NCTM) emphasizes "the important role of communication in helping children construct understandings of mathematical concepts and develop connections between their informal knowledge

and the abstract symbolism of mathematical concepts" (Hunsader, 2004, p. 618). Literature can be used to engage learners in meaningful conversations and investigations in mathematics (Hunsader, 2004), thus providing a means for mathematics and language skills to develop simultaneously (Hellwig et al., 2000). Weiland's study of children's thoughts about division problems (as cited in Sanders, 1996) suggests that verbal responses can guide differentiated instruction.

Since the same skills and strategies are fundamental to reading comprehension regardless of the subject area, teachers can explicitly model how to activate background knowledge, clarify, question, predict what will happen, and summarize information within these content areas.

Science and physical education require oral language skills such as "active listening, following oral directions, and stating needs and discussing issues" (Ballinger & Deener, 2006). Written skills, such as assessing curricular goals, keeping fitness journals or reviewing tasks completed cooperatively, highlight the role of students in monitoring personal growth. Oliver & Garrison (1996) also noted the importance of speaking and writing in dance classes, as students describe the impact of physical movement on their bodies, thus increasing self-awareness.

Music teachers and researchers have found ways to make the language literacy-music connection possible, because several musical skills parallel language literacy skills. Hansen (2009) and Pearce (2000) maintain that writing about music expands students' musical vocabulary and their "conceptual understanding...of the art form" (Hansen, p. 28). Liperote (2006) combines speaking and listening in her band classes by stressing the singing of rote songs. Peisch (1995) describes an inquiry approach to the musical ensemble that encompasses all four literacy skills. Others emphasize how learning to read print and to read music are complementary skill sets, because both utilize text and symbols (Darrow, 2008; Hansen & Bernstorf, 2002; Locklear, 2002).

Health literacy, which includes oral and written comprehension of instruction and medical terms, depends upon both expressive (speaking, writing) and reflective (listening, reading) literacy skills. Mantone (2005) claims that support for making "appropriate health decisions" could begin in pre-kindergarten (p. 30). Bolton (2005) maintains that written narrative in medical classes paired with literature "offers dynamic ethical issues with which to grapple" (p. 171); this practice could transfer easily to health or contemporary history classes in public schools.

How does literacy instruction impact art education?

Art educators and literacy educators acknowledge an interconnectedness that reframes teaching of both disciplines, but the details have provoked discussion in the research community. Some researchers have scrutinized art education in its entirety. Educational theorist Eisner (1976, 1982, 1995) repeatedly maintained that the arts should be taught for the purpose of developing reflective, aesthetic and emotional dispositions. Reisberg, Brander, & Gruenewald (2006) advocated for a social reconstructionist arts education, which would include an indefinable change in the content, instructional methods, and organization of curriculum. Kalin & Kind (2006) restated the value of pre-service art teachers working directly with children in order to identify students' concept of art learning in order to maximize their teaching. Simanski (2008) justified art education by identifying its impact on the achievement gap: "In the art room any child can succeed..." (p. 12).

Some, like Baldacchino (2008), see a divide between learning and education: "If art conforms, it has no use to learning. If it becomes synonymous with learning, then it is not art anymore" (p. 242). He boldly suggested that "The teaching and learning of art is trapped between the assumptions of process and product...knowledge is a matter to be *discovered* but never determined, and where a fixed ground is transformed into a wide horizon" (p. 241).

Lorimer (2009) supported Baldacchino's premise regarding the "discovery process" in art but used the visual scanning concept as a strategy to support interdisciplinary learning. He explained:

Visual scanning can be implemented in any classroom at any level. To begin teachers select an art print or artifact for viewing. After one minute of quiet observation, students begin responding to and posing questions that prompt deeper thinking:

- (a) What else do you see?
- (b) How do you know?
- (c) What evidence may support that?

In this way all students are allowed to share what they see and think. (p. 11)

Since all children experience visual and graphic development as they grow, effective visual perception seems fundamental to learning at any age in any field or content area (Cornia, 1983).

As expressive modes, visual arts and language arts both share a common focus on communication: listening, reading, speaking, and writing. Stephens & Walkup (2000) identified higher-order thinking skills and the five-step writing process as vital components of the framework for deeper exploration of art.

Simanski (2008) noted that "...Images and examples can take the place of words," but he readily acknowledged verbal discourse as a vital link in art education when he continued: "Learning takes place when students look at, *discuss* and make art" (p. 12). Cornia (1983) maintained that young children begin to express uniqueness with artistic efforts (such as scribbling) that satisfy the need to communicate both ideas and feelings, but they soon learn ways to talk and write about art. Vacca & Vacca (2002) reported that students, in one high school art class, kept a sketchbook to guide their thoughts and record emotional responses to what they were seeing and studying. Such a continuous record of personal responses to art is not only a versatile writing-to-learn strategy, but also a key element in building the reflective behaviors that Eisner espoused.

Hurwitz & Day (2007) suggested that the actual exposure to visual images provides issues and topics that motivate children to speak and write, to think and learn within the framework of art. Using visual concepts and vocabulary in

discussing art, art criticism moves children beyond the mere descriptive use of language to formal analysis and interpretation of meaning in art.

Iyengar (2008) discovered behavior patterns associated with literary reading that impact the fine arts. He found that adults who read are three to four times as likely as nonreaders to visit art museums and attend plays. He stated, "By stressing the need to read widely and to read well, arts educators and cultural policymakers will cultivate the audiences and artists necessary to sustain creativity in the United States" workforce" (p. 25).

Literacy subtly permeates art curricula. Eisner (1998) summarized "...Perhaps, the largest lesson that the arts in education can teach [is] the lesson that life itself can be led as a work of art..." (p. 56).

Description of the Study

The study involved eight pre-service teachers (6 females, 2 males) in art education, who were enrolled in a required content area reading course while student teaching during the last semester of their senior year at a large, southeastern university. The pre-service teachers had placements at the level of their choice: three were at elementary schools and five at high schools (Table 1). Each school was located within a mostly rural area of varied socioeconomic level and racially diverse towns that surrounded the university community.

Midway through the semester, after background in instructional reading levels, comprehension strategies, and the readability of school-issued texts, the pre-service teachers were asked to observe an art class of their choice and to identify one language-related issue that seemed to interfere with optimal teaching and learning in elementary or high school art classes. With the supervising teacher's approval, each pre-service teacher then constructed and implemented three consecutive lessons to address the problematic area. Lesson format was a personal choice (entire period, mini-lesson, small group or whole class), but a focus on one literacy skill (listening, reading, speaking, writing) as the method of instruction was a requirement.

The following examples illustrate lessons pre-service teachers created using specific literacy skills as a focus. Listening lessons for high school art class combined listening and following directions in order to understand and apply the two-point perspectives in an art work. Students listened to the teacher explain how to create imaginary environments containing buildings, landscapes for horizon lines and to incorporate organic still-life forms. In a photography class, students listened to enhance note-taking skills. One pre-service teacher stated:

Photography is very hands-on. There is also an endless amount of information about the processes, chemicals and history of photography. Students will not just pick up the photography book and read it for the fun of it. To practice note-taking skills about important information in photography, I will incorporate open note quizzes into the curriculum. Students will have to learn how to take thorough notes, pull important points out of the lecture and keep track of their notes.

Listening lessons in art at the elementary level included students listening to directions for making an accordion book with warm and cool colors. Students also focused on listening to complete a lesson on Van Gogh's painting, "Starry Night."

Reading lessons in art classes helped students interpret, evaluate, and apply information. In the course Renaissance Art and Perspective Drawing, a focus on reading comprehension provided students with opportunities to draw inferences and analyze data. A lesson using Matisse cutouts demonstrated how telling a story

in visual terms could support reading comprehension. Reading medieval art literature supplied context for a lesson on calligraphy and illuminated manuscripts.

Writing lessons included a research paper on a sculptor. A second lesson focused on using quotes from a sculptor to explore the world of art. Students wrote weekly in a sketchbook by journaling, sketching, collecting images, and writing poems and/or thoughts. This pre-service teacher asked students to respond to the following questions about the sculptor's quotations: (a) What do you think this quotation is saying? (b) What do you think about the quotation and why? (c) Can this quotation relate to your life? The purpose of the assignment was to have students realize that artists can combine both reflective and critical writing with their artwork.

Speaking lessons helped students express their interpretation of art. Because growth comes from discussing art, as well as expressing oneself through art, the students learned to speak about what makes some art more successful and why.

After each lesson, participants recorded in a research notebook what worked, what did not work, and what they would do differently next time. Upon completion of the third consecutive lesson, pre-service teachers reflected on the project by responding to six questions designed to invite analysis, synthesis, and comments. The questions were:

- (a) Did your lessons go according to plan?
- (b) What did you learn about your students through these lessons?
- (c) Did you learn something about your students that you might not have known otherwise?
- (d) Did the lessons OR new learning make a difference in how you planned for instruction?
- (e) How will you transfer this awareness to your own professional practice?
- (f) Any random comments?

At the conclusion of the project, pre-service teachers met near campus with a guest art educator in one of two, small peer groups to present five-minute summaries of their projects. One at a time, they identified the literacy skill they had selected, described one lesson they had taught, and verbally shared what they had learned. After each summary, the guest art educators evaluated the presentations and assigned a grade to each project.

Methodology for Analysis

The instructor, who was also one of the researchers for this study, read the reflective summaries and circled quotations, key phrases in response to the questions, and any additional commentary. Utilizing the four literacy skills (listening, speaking, reading, and writing) and the study's basic framework of new understandings in regard to self-awareness and insights, she began by sorting data into distributions by school placement and art class.

Next, the researcher listed the pre-service teachers' responses to questions. A total of 105 responses to questions two through five were received. Six participants shared random comments in response to question six.

The researcher refined categories by highlighting and grouping the responses according to the chosen literacy skill. Although each question stimulated a direct response from many participants, the questions provoked reflection from some. The researcher created subgroups and used analytic induction to explore the data and denote contrasts in responses.

In order to prevent bias, a colleague with no connection to the course or to art education students also reviewed the distributions and reanalyzed the data. She provided oral and written comments related to the data to the researchers in order to coalesce the results of the study.

Results

Table 1 shows that two of three pre-service teachers at elementary schools chose to focus on listening skills, and three of six at high schools. By contrast, no elementary art pre-service teachers focused on reading, while reading concerned only one high school placement. One teacher at the elementary school level selected speaking as a focus, and one at the high school level selected writing as a focus. Overall, both elementary and high school pre-service teachers selected "listening" as a literacy focus in art class.

Table 1: Distribution of literacy skills selected for lesson focus by school

| Literacy Skill | Elementary School | High School | Total |
|----------------|-------------------|-------------|-------|
| | | | |
| Listening | 2 | 3 | 5 |
| Reading | 0 | 1 | 1 |
| Speaking | 1 | 0 | 1 |
| Writing | 0 | 1 | 1 |
| Total | 3 | 5 | 8 |

In response to the introductory question ("Did your lessons go according to plan?"), pre-service teachers indicated that in teaching their first and second lessons they learned much about their students but the lessons did not always go as planned. While teaching the third lesson, pre-service teachers noted that their lessons were successful.

Tables 2-5 display pre-service teachers' responses to four questions designed to help them analyze and synthesize the results of their experiences with literacy lessons in art curricula. Tallies varied in number because some participants offered multiple comments, while others declined to comment.

Many learned to identify which students understood the material, who was struggling, and why; see Table 2. Pre-service teachers gained new understandings about their students, self-awareness of their teaching, and insight regarding literacy and art. They found that students' personal values are reflected in their application and understanding of art.

Those who had focused on listening skills reported that students produced a good product when they listen. While one complained, "Listening is the problem area in art education," another observed that "Teachers can enhance the students' abilities to assimilate information creatively." One stated, "Students learn in different ways: some visually and some aurally"; and another conceded, "Elementary students cannot listen attentively for a long time."

One pre-service teacher committed to reading skills quickly recognized that "Many students at the high school level answer questions but cannot back up their answers." Students enjoyed making predictions and evaluative judgments, yet they were completely reticent when asked to critique their own art products or connect what they believed with current reality.

The pre-service teacher who selected speaking as a focus shared that "Students are eager to learn and express thoughts about art, yet they struggle with

the notion of meaning despite explicit instruction." She also considered whether "Some art concepts are too difficult for second graders."

Table 2: What did you learn about your students through these lessons?

| rubic 2. What did you learn about your stadents through these lessons: | | | | | | | |
|--|-------------------------------|---------|----------|---------|-------|--|--|
| New Understandings | Listening | Reading | Speaking | Writing | Total | | |
| Students answer questions but cannot back up their answers. | | 1 | | 1 | 2 | | |
| Students are eager to learn and express thoughts about art. | | | | 1 | 1 | | |
| Students have difficulty critiquing their own art work. | | | | 1 | 1 | | |
| Students listen when taking notes. | 1 | | | | 1 | | |
| Students produce an excellent product when they listen. | 2 | 1 | | | 3 | | |
| Students struggle with meaning despite explicit instruction. | 1 | | 1 | | 2 | | |
| | Self-awareness Self-awareness | | | | | | |
| Students learn in different ways: some visually and some aurally. | 1 | | | | 1 | | |
| Teachers can enhance the students' abilities to assimilate information creatively. | 1 | | | | 1 | | |
| Teachers can motivate students to listen by making an assignment. | 1 | | | | 1 | | |
| Insights | | | | | | | |
| Clear plans/demonstrations produce improved student response. | 1 | 1 | | | 2 | | |
| Students are more attentive during lessons which interest them. | 1 | | | | 1 | | |
| Total | 9 | 3 | 1 | 3 | 16 | | |

The pre-service teacher who selected writing skills agreed with the reading-focus summaries that "Students answer questions but cannot back up their answers." She also cited students' "difficulty critiquing their own art work" as a core issue.

Table 3 indicates what pre-service teachers learned about students through the delivery of literacy lessons. They observed different degrees of student engagement throughout the lessons and gradually recognized in students a mix of developmental and instructional needs.

Table 3: Did you learn something about your students that you might not have known otherwise?

| New Understandings | Listening | Reading | Speaking | Writing | Total |
|---|-----------|-----------|----------|---------|-------|
| Students express their | | | | 1 | 1 |
| opinions in different ways. | | | | | |
| Students have problems | 1 | | | | 1 |
| listening to a set of multiple | | | | | |
| steps in a project. | | | | | |
| Students have a gap in | | 1 | | | 1 |
| understanding art concepts | | | | | |
| of linear perspective. | | | | - | 4 |
| Students have difficulty expressing their opinions in | | | | 1 | 1 |
| written form and in | | | | | |
| explaining steps of projects. | | | | | |
| Students have problems | | | | 1 | 1 |
| writing in an organized | | | | - | - |
| format. | | | | | |
| Students need a more | 1 | | | | 1 |
| authoritarian approach from | | | | | |
| me. | | | | | |
| Students need to hear | 1 | | | | 1 |
| directions repeated. | | | | | |
| Students need varied | | 2 | | 1 | 3 |
| instructional strategies. | | | | | |
| Students want consistency. | 1 | | | | 1 |
| | | awareness | | | |
| Awareness of why students | 1 | | | | 1 |
| don't listen is important. | 2 | | | | 2 |
| Clear plans/demonstrations | 2 | | | | 2 |
| produce improved student | | | | | |
| response. Insights | | | | | |
| Students listen well and pay | 1 | 1 | | | 2 |
| attention when the teacher | 1 | 1 | | | |
| reads aloud. | | | | | |
| Students need constant | | | 1 | | 1 |
| reinforcement. | | | _ | | _ |
| Total | 8 | 4 | 1 | 4 | 17 |

Table 4 details how knowledge gained might influence instruction. With documented awareness of students' specific needs, pre-service teachers planned differently. They actively modified their teaching style by strengthening the procedural elements of their instructional planning to match students' Zone of Proximal Development (Vygotsky, 1934/1978). They adjusted their style, methodology, and/or course content.

Table 4: Did the lessons OR new learning make a difference in how you

planned for instruction?

| planned for instruction? | | | | | - |
|--------------------------------|-----------|-----------|----------|---------|-------|
| New Understanding | Listening | Reading | Speaking | Writing | Total |
| Students' attention needs to | 1 | | | | 1 |
| be on the teacher "All eyes | | | | | |
| on me." | | | | - | 4 |
| Students have difficulty | | | | 1 | 1 |
| expressing thoughts in | | | | | |
| words instead of drawings. | - | | | | - |
| Students should take notes | 1 | | | | 1 |
| during lecture to help their | | | | | |
| understanding. | - | | | | - |
| Students should categorize | 1 | | | | 1 |
| to organize their notes. | | | | | |
| Students need constant | | | | 1 | 1 |
| practice. | | | | | |
| Students used vocabulary | | 2 | | | 2 |
| sheets to understand | | | | | |
| concepts in two- and three- | | | | | |
| dimensional art concepts. | | | | | |
| | | awareness | | | |
| List steps for the lesson on | 1 | | | | 1 |
| the board. | | | | | |
| Make directions explicit. | 1 | | 1 | | 2 |
| Organize the lecture into | 1 | | | | 1 |
| steps. | | | | | |
| Provide an anticipation | | 2 | | 2 | 4 |
| guide. | | | | | |
| Push students to be creative | | | | 1 | 1 |
| and express their thoughts | | | | | |
| in words. | | | | | |
| Rehearse the material to | | 2 | | 1 | 3 |
| address potential pitfalls. | | | | | |
| Talk with students about | | | | 1 | 1 |
| their opinions, research | | | | | |
| problems. | | | | | |
| Teach a multiple step | 1 | | | | 1 |
| project in different ways. | | | | | |
| Insights | | | | | |
| Timing is vital to the success | 1 | 1 | 1 | | 3 |
| of the lesson. | | | | | |
| Struggling readers respond | 1 | | | | 1 |
| to small units of instruction. | | | | | |
| Total | 9 | 7 | 2 | 7 | 25 |

Pre-service teachers noted, "Timing is vital to the success of the lesson"; and "Struggling readers respond to small units of instruction." Additional comments included: "Students need constant practice," "categorizing assists the students in organizing their notes," and "students need visual examples of projects."

Table 5 lists pre-service teachers' responses to how this expanded understanding of student development might shape their future practice. Over half of the group pragmatically listed nine effective instructional strategies to use in their classrooms.

The creation of more developmentally appropriate instructional and delivery techniques for an integrated curriculum, as noted in Tables 4 and 5, paralleled an increase in both personal and professional growth for some pre-service teachers. As a result of multiple opportunities for written reflection, several study

participants identified instructional concepts that seemed to promote student learning more than others. They also recognized personal qualities that could enhance their interactions with students, as evidenced by an increased number of comments categorized as "self-awareness" and "insights" in Tables 4-5. The six preservice teachers, who responded to Question #6, any random comments? (about the project, which did not pertain directly to the questions framing the study), expressed similar insights and growth in self-awareness.

Table 5: How will you transfer this awareness to your own professional

practice?

| New Understandings | Listening | Reading | Speaking | Writing | Total |
|---|-----------|-----------|----------|---------|-------|
| Critique works of art. | 1 | 1 | | 1 | 3 |
| Establish a classroom climate that promotes creativity and self expression. | 1 | 1 | | 1 | 3 |
| Observe, speak to, and evaluate the students' ability to understand and apply art concepts being taught. | 1 | | | | 1 |
| Use writing to provide a purpose in learning about art. | | | | 2 | 2 |
| Utilize the vast array of resources directed toward helping students with reading difficulties. | 1 | | | | 1 |
| | Self- | awareness | | | |
| Be aware of how students learn. | 1 | | 1 | | 2 |
| Develop appreciation for the arts. | 1 | 1 | 2 | | 4 |
| Review every day. | 1 | | | | 1 |
| Scaffold student learning. | | 1 | | | 1 |
| Teach art projects in different ways. | 1 | | | | 1 |
| Teach how art is applied to everyday life. | 1 | | 1 | 1 | 3 |
| | Insights | | | | |
| Awareness of problems leads to easier solutions. | 1 | | | | 1 |
| Frequency of (listening, reading) exercise develops understanding of concept. | 1 | 1 | | | 2 |
| Incorporating reading and writing in the art classroom helps students become comfortable expressing themselves through art. | 1 | | | | 1 |
| Teaching students that art projects do not have to look perfect promotes creativity. | 2 | | | | 2 |
| Total | 14 | 5 | 4 | 5 | 28 |

Table 6 summarizes the instructional methods public school students need in order to explore artistic concepts successfully. Pre-service teachers synthesized these methods after teaching the requisite three classes noted above.

Table 6: Distribution of art students' instructional needs, as observed by

pre-service art teachers

| pre-service art teachers | | | | | | |
|---|-----------|---------|----------|---------|-------|--|
| Instructional Needs | Listening | Reading | Speaking | Writing | Total | |
| Background knowledge in art history | | | 1 | 1 | 2 | |
| Clear demonstrations | 1 | 1 | | | 2 | |
| Critiques of art projects | | | 1 | 1 | 2 | |
| Deliberate, thorough planning | 1 | 1 | | 1 | 3 | |
| Directions repeated, rephrased | 2 | | | 1 | 3 | |
| Problem solving/Student assessment | | 2 | | | 2 | |
| High interest materials | 1 | 1 | | 1 | 3 | |
| Scaffolded/reinforced instruction | | 1 | | | 1 | |
| Short lessons (15 minutes) | 1 | 1 | | | 2 | |
| Varied instructional strategies | 1 | 1 | | 1 | 3 | |
| Visual approaches | 1 | | 1 | | 2 | |
| Total | 8 | 8 | 3 | 6 | 25 | |

Discussion

The results of this study indicate that pre-service teachers gained new knowledge about their students and about themselves as practitioners. The literacy lessons provided a lens through which they could sharpen their observations and appraise student behaviors. The actual organizing and sequencing of objectives in lesson plans appeared to spur pre-service teachers to consider appropriate instructional goals for all learners and move students systematically forward.

Pre-service teachers began their student teaching experience armed with art skills, knowledge, and pedagogy. Understandably lacking the daily exposure to students, they were unaware of how literacy

The literacy lessons provided a lens through which they could sharpen their observations and appraise student behaviors.

positively affects student dispositions. One pre-service teacher commented, "The class behaved better when I had them read about something. I could hardly believe they would listen so well or pay so much attention to the written word." After reading about the two-point perspectives in art, students found it easier to express themselves and explain their art projects. One pre-service teacher decided,

I will open my students eyes and show them the endless possibilities of art. I will give the shy, timid student the

encouragement to show the world her work. I will continue to incorporate reading and writing into my art classroom.

If this is the case, earlier field experiences could familiarize pre-service teachers with the benefits of incorporating literacy instruction within art education to strengthen their students' emotional, social and artistic development across myriad settings: art room, classroom, museum, and studio.

A second result of the study was that pre-service teachers realized that incorporating literacy instruction in art class enhanced creativity and the quality of art projects. One pre-service teacher realized, "I have the opportunity to enhance a student's abilities to assimilate information creatively and apply it to the discipline of art." Although "listening is the problem area in art" education, students became aware that "to make their projects better, they need to listen to the lesson well." Another pre-service teacher commented, "Students took pride in remembering lines from the book. It seemed to push them to picture what was being said and that is great for visual arts."

Untutored in literacy methods, pre-service teachers were initially uncomfortable linking a literacy project to art. Yet, through implementation of the literacy lessons, they discovered numerous instructional strategies to incorporate literacy in art class. One teacher listed the steps for a sculpture project on the board, told the student the steps and had them take notes. Another noted:

I need to make the directions explicit. The more I review the project and tell students the steps, the more they understand. I cannot just tell the directions to a multiple step project, I have to teach them in different ways. I will write the steps on the board, give a visual example and a handout, and let students read the steps for themselves.

A different pre-service teacher said she would provide an anticipation guide for her students, and another mentioned she would provide tangible manipulatives to connect the art concept to concrete objects and examples. Still another revealed that "The worksheet reinforced the vocabulary and took a rather abstract concept and asked students to demonstrate their understanding by drawing."

Integrating multiple literacy strategies, a third result of this study, provided art students with tools to improve the quality and creativity of artwork. Implementing these strategies indirectly supported the development of more expressive artists and thus, facilitated their projects.

A fourth result of the study was that incorporating speaking and writing instruction in art class developed the skills of art criticism. Since art criticism is a very important component of art education, students must be able to speak knowledgeably about artwork. A pre-service teacher said, "I will make it a priority with each grade to always introduce some type of art history and talk about art: how it makes you feel and how it is successful." Another teacher stated, "Talking individually with students about their painting got some really interesting answers and helped them begin to understand important elements of art." Students need to think about the art concept as they are working on a project and understand what makes art successful or unsuccessful.

In writing, pre-service teachers found that "Students need to realize that even in art class, writing can provide a purpose in learning about art." One teacher explained:

Writing in the curriculum is important to incorporate in art courses. Students can use writing in self critiques, and then they will get better at explaining their thoughts and remember certain art processes through written communication.

Another pre-service teacher added that she would have a verbal critique at the end of the lesson so students could practice talking about their artwork and how they could make their pieces better. "Students have difficulty critiquing their own work, because they are not sure how to improve the work and to explain it in words," she stated.

Said one pre-service teacher, "My students knew how to get the right answers but could not synthesize the material and arrive at creative responses, which is vital in an art class." Others found, "Students express their opinions in different ways--verbal communication, visual communication, and written expression." This challenged pre-service teachers to differentiate content to match learning styles and capacities.

By including all learning modalities (aural, kinesthetic, visual) and integrating literacy skills, pre-service art teachers realized that they have "increased their overall sense of efficacy. They are less intimidated by my students' problems and more concerned with finding a proactive solution to ensure them success."

Finally, the study revealed that literacy instructional methods can assist art educators in accepting their responsibility "to develop an appreciation for the arts." One pre-service teacher explained that "Establishing a classroom climate that promotes self creativity and expression while balancing the need to constructively critique works of art is of paramount importance." Another stated, "Teaching art is a culmination of a lifelong journey. It provides the opportunity to lead young minds into the exploration of abstract ideas." Two pre-service teachers noted, "All students have a sense of creativity" and "Before making assumptions about my students' low motivation or poor attitude, I will check to see if problems are with the assignment and not linked to problems with reading."

Conclusion

Current research in art education supports and extends the premise that the quality of art teaching and learning in all contexts is paramount. The National Association for Education in the Arts (2008) "identified and defined research needed for professional growth to support and enrich teaching and learning in art education, establish new communities of research, and inform advocacy and policy development" (para. 2). Three main topics of research were: (a) student learning,

(b) teaching, and (c) curriculum with student learning and teaching practices of greatest concern.

This study revealed that literacy skills are integral elements of the elementary and secondary art classroom that impact artistic development on many levels. Smith (2005) noted that educators know experientially that context matters and makes for educational effectiveness. He cited Uhrmacher (2001), who argued that schools should help children create meaning from experience and that education

Schools should help children create meaning from experience and that education devoted to meaning-making and the imagination demand a curriculum that fosters multiple literacies not only for students but teachers as well.

devoted to meaning-making and the imagination demand a curriculum that fosters multiple literacies not only for students but teachers as well.

Recent research in content area literacy reaffirms the role of all teachers in empowering students to become independent learners (Alvermann, Phelps & Ridgeway, 2007; Vacca & Vacca, 2002). Students' ability to listen, read, speak, and write well determines the level of that independence and their overall success in school. Ballinger and Deeney (2006) strongly suggested that all teachers must "capitalize on literacy teaching and learning in every environment possible" so as not to "leave many children ill-prepared for later life" (p. 19).

Art-teacher educators, who collaborate with pre-service teachers in planning activities tailored to learner needs and preferences in public schools, demonstrate invaluable support for curricula that respect cultural, economic, and linguistic diversity in the classroom. Art-teacher advocates provide pre-service teachers with multiple opportunities for classroom experience and promote the inclusion of strategies that affirm child and adolescent development.

Emphasizing literacy instruction within art curricula can further enrich art teacher preparation and personalize instruction for public school students. By including numerous experiences in practica and clinical teaching opportunities early during their university coursework, pre-service teachers can readily integrate literacy within the art curriculum. Companion studies to determine precisely how best to link theoretical knowledge with public school's formal curriculum seem necessary.

While researchers debate the shape of reform in art teacher preparation programs (Bain, 2009; Kalin & Kind, 2006; Lorimer, 2009; NAEA, 2008; Reilly, 2009), pre-service teachers are transitioning from course-based knowledge to field-tested experiences to public school positions every semester. With professional encouragement, pre-service teachers can definitely blend literacy skills with art and gain instructional and professional strength, as they passionately nurture their students' artistic gifts.

References

Alvermann, D.E., Phelps, S.F. & Ridgeway, V.G. (2007). Content area reading and literacy: Succeeding in today's diverse classrooms. Boston: Pearson Education.

Atkinson, T.S., Matusevich, M.N. & Huber, L. (2009). Making science trade book choices for elementary classrooms. *Reading Teacher*, 62(6), 484-497.

Bain, K. (2009). What the best college teachers do: Implications for teaching art education methods courses for elementary majors. *Studies in Art Education*, 50(2), 205-208.

Baldacchino, J. (2008). The praxis of art's deschooled practice. *International Journal of Art & Design Education*, 27(3), 241-250.

Ballinger, D.A. & Deeney, T.A. (2006). Physical educators as teachers of literacy. *Journal of Physical Education, Recreation & Dance, 77*(5), 18-23.

Bolton, G. (2005). Medicine and literature: Writing and reading.

Journal of Evaluation in Clinical Practice, 11(2), 171-179.

Consortium of National Arts Educations Associations. (1994). National standards for arts education. Reston, VA: MENC.

Cornia, I.E. (1983). Art is elementary: Teaching visual thinking through art concepts. Layton, Utah: G.M. Smith.

Darrow, A. (2008). Music and literacy. *General Music Today*, 21, 32-34.

Department of Education, Tasmania, School Education Division. (2007). English learning area critical literacy. Retrieved May, 2008, from http://wwwfp.education.tas.gov.au/English/critlit.htm

Eisner, E.W. (1976). The arts, human development and education. Berkeley, CA: McCutchan.

Eisner, E.W. (1982). Cognition and curriculum: A basis for deciding what to teach. New York: Longman.

Eisner, E.W. (1995). What artistically crafted research can help us understand about schools. *Educational Theory*, 45(1), 1-6.

Eisner, E.W. (1998). *The kind of schools we need: Personal essays*. Portsmouth, NH: Heinemann.

Hansen, D. (2009). Writing in the music classroom. *Teaching Music, 16*, 28-30.

Hellwig, S., Monroe, E.E., & Jacobs, J.S. (2000). Making informed choices: Selecting children's trade books for mathematics instruction. *Teaching Children Mathematics*, 7(3), 138-143.

Hladczuk, J. & Eller, W. (Eds.). (1992). *International handbook of reading education*. Westport, CT: Greenwood Press.

H.R. 1804-103rd Congress. (1994). Goals 2000: Educate America Act. Washington, DC: U.S. Government Printing Office.

Hunsader, P. (2004). Mathematics trade books: Establishing their value and assessing their quality. *The Reading Teacher*. *57*(7), 618-629.

Hurwitz, A. & Day, M. (2007). Children and their art methods for the elementary school. Belmont, CA: Thomson Wadsworth.

Iyengar, S. (2008). A federal arts agency at the center of reading research: How we got here. *Arts Education Policy Review*, 110(1), 23-26.

Kalin, N. & Kind, S. (2006). Invitations to understanding: explorations in the teaching of arts to children. *Art Education*, *59*(3), 36-41.

Locklear, S. (2002). Research-based justification for the highline school district elementary and secondary school music programs. Retrieved February 1, 2009 from http://www.newhorizons.org/strategies/arts/locklear.htm

Liperote, K.A. (2006). Audiation for beginning instrumentalists. *Music Educators Journal*, *93*, 46-52.

Lorimer, M. (2009). Using interdisciplinary arts education to enhance learning. *Principal*, 88(3), 8-12.

Mantone, J. (2005). Reading, writing and relating. *Modern Healthcare*, *35*(32), 30-32.

NAEP says urban districts better in math, lag in reading. (2006, February/March). *Reading Today, 23*, 4.

National Art Education Association. (2008). Creating visual arts education research agenda for the 21st century: Encouraging individual and collaborative research. Retrieved April 15, 2009, from http://alumniconnects.com/olc/filelib/NAEA/Cpages/9002/Library/NAEA%2 0Research%20Agenda

National Art Education Association. (2008). 2008 NAEA research needs assessment findings, interpretations and implications. Retrieved April 15, 2009 from

http://alumniconnections.com/olc/file lib/NAEA/cpages/9002/Library/Resea rchNeedsSurveyReport.10-20.pdf

Oliver, K. & Garrison, J. (1996). Reflective writing and kinesthetic listening: The other half of the dance. Journal of Physical Education, Recreation & Dance. 67(6), 37-40.

Pearce, M. (2000, May 1). A model for improving reading through music study in band and orchestra. *Reading Teacher*, 53(8), 1-4. Retrieved May 26, 2005, from http://web32.epnet.com/citation.asp

Peisch, S. (1995). Listening to music in the new ninth grade program at Lawrence Academy. *Clearing House*, 68(6), 347-352.

Reilly, M. (2009) Opening spaces of possibility: The teacher as bricoleur. *Journal of Adolescent & Adult Literacy*, *52*(5), 376-384.

Reisberg, M., Brander, B. & Gruenewald, D. (2006). Your place or mine? Reading, art, place, and culture in multicultural picture books. *Teacher Education Quarterly*, *33*(1), 117-133.

Ryan, J. (1992). Foreword. In J. Hladczuk & W. Eller (Eds.). *International handbook of reading education*, (p. ix). Westport, CT: Greenwood Press.

Sanders, S.W. (1996). Children's physical education experiences: Their interpretations can help teachers. *Journal of Physical Education, Recreation & Dance, 67*(3), 51-56.

Simanski, C. (2008). Addressing the achievement gap through art. *School Arts: The Art Education Magazine for Teacher*, 108(4), 12.

Smith, M.K. (2005). Elliot W. Eisner, connoisseurship, criticism and the art of Education. *The Encyclopedia of Informal Education. Retrieved from* www.infed.org/thinkers/eisner.htm

Stephens, P. & Walkup, N. (2000). Bridging the curriculum through art interdisciplinary connections. Glenview, IL: Crystal Productions. Stewart, R.A. & O'Brien, D.G. (1989). Resistance to content area reading: A focus on preservice teachers. *Journal of Reading*, *32*, 396-401.

Uhrmacher, P. B. (2001). Elliot Eisner. In J.A. Palmer (ed.) *Fifty Modern Thinkers On Education. From Piaget to the Present,* London: Routledge.

U.S. Department of Education. (2002). *The No Child Left Behind Act of 2001*. Retrieved February 1, 2009, from http://www.ed.gov/policy/landing.jht ml?src=rt

Vacca, R.T., & Vacca, J.L. (2002). Content area reading: Literacy and learning across the curriculum. Boston: Allyn and Bacon.

Vygotsky, L.S. (1978). Mind in society: The development of higher psychological processes. (M. Cole, V. John-Seiner, S. Scribner, & E. Souberman, Eds. & Trans.). Cambridge, MA: Harvard University Press. (Original work published, 1934).

Alice J. Feret is an Associate Professor of Reading in the College of Education at East Carolina University. A graduate of Syracuse University and Virginia Tech, she has previously served professionally as an upper-elementary classroom teacher, reading specialist and K-5 language arts coordinator in New Jersey, Virginia, and Wisconsin public schools. Her research interests include various literacy issues, as they impact teacher education and retention.

Judith J. Smith is an Assistant Professor of Elementary Education in the College of Education at East Carolina University, Greenville, North Carolina. A graduate of East Carolina University, she has taught in public schools in three states and has served as director of a family literacy program. Her research interests include language/literacy, educational technology/21st century literacies, and teacher-researcher collaborative relationships.

Traceable Recursion with Graphical Illustration for Novice Programmers

Leonardo Sa

Student, Department of Computer Science, Information Systems, and Mathematics Park University

Wen-Jung Hsin, PhD

Professor, Department of Computer Science, Information Systems, and Mathematics
Park University

Recursion is a concept that can be used to describe the phenomena and natural occurrences in many different fields. As many applications utilize computer software to model recursion, recursion is a particularly important concept in the computing discipline. However, it is a difficult concept for many undergraduate students to master. A Recursion Graph (RGraph) is one visualization method for representing recursion. This paper extends our previous work on RGraphs to include a tool for automatically generating complete and partial RGraphs from an arbitrary recursive program. Use of this tool allows for more flexibility in demonstrations and more focused pedagogical interactions on the part of students, thereby improving student learning in recursion.

In mathematics, recursion is a method of defining a mathematical function based on previously defined terms of the same function. It is an important concept in Computer Science as well as many other disciplines. McCracken (1987) stated that "Recursion is fundamental in Computer Science, whether understood as a mathematical concept, a programming technique, a way of expressing an algorithm, or a problem-solving approach." In computing, it appears frequently in the study of algorithms, data structures, and artificial intelligence. In other fields of study, recursion appears as population and predator/prey models in biology, formal structures in linguistics, filters in signal processing, and genomic sequencing in bioinformatics. Fractals are self-similar, recursive patterns found in nature and simulated through mathematics with applications in art, design, and engineering.

Although recursion is an important concept, teaching recursion to introductory Computer Science students is a challenging task (AP Central.) This has been documented in several studies. For example, AP Central states that "It is not uncommon for novice programmers to have difficulty understanding recursion," and Dann, Cooper, and Pausch (2000) argued, and Gal-Ezer and Harel (1998) agreed, that "Some Computer Science educators have described the process of teaching recursion as one of the universally most difficult concepts to teach." Teaching recursion is a challenge largely because students have a difficult time envisioning the abstract concept. A variety of approaches and studies has been tried to better explain this concept. For example, Wu, Dale, and Bethel (1998) used experiment results to show that the concrete conceptual models are better than abstract conceptual models. Hundhausen, Douglas, and Stasko (2002) show that student use of algorithm visualization technology has a great impact on teaching effectiveness. The experiment result in Bruce, Danyluk, and Murtagh (2005) shows that presenting recursive structure to students earlier rather than later can help reinforce the concept of recursion and better prepare students for other data structures. As many varieties of applications in other fields such as signal processing, human genomic sequencing, and population modeling have utilized computer software to capture the idea of recursion, it is important that Computer

54 Volume 5 ● 2010

Science students understand the concept of recursion early on so that they are prepared to write programs to capture the recursive phenomena and natural occurrences in many different applications.

With the suggestion of the work from Hundhausen et. al. (2002) and Wu et. al. (1998) where concrete conceptual modeling and visualization technology enhance teaching effectiveness, this paper discusses the Recursion Graph (RGraph) to try to help novice programmers to learn the concept of recursion. RGraph was developed in 1996 and initially documented in Hsin (2008). In 2009, we implemented a software tool to automatically generate complete and partial RGraphs. A complete RGraph provides a concrete conceptual modeling tool that can help crystallize for students the concept of recursion. A partial RGraph can help student learning by having students think about what labels are missing, thereby assessing their understanding of the concept. We report on the experimental result of student learning in using RGraphs.

One particular feature of an RGraph is that it is traceable. Specifically, it shows the detailed invocation sequences from one layer to another such that the flow of the calls is traceable. Since an RGraph is traceable, it can be used as a self debugging tool. It is particularly useful when the department of Computer Science at the university where the authors teach adopted PDProlog (Public-Domain Prolog) fourteen years ago. At that time, PDProlog was the only free Prolog interpreter for use in the personal computer. PDProlog, however, did not provide a trace command for the purpose of debugging. The authors therefore invented RGraph, providing the needed debugging tool. When a student wishes to see how his recursion algorithm works, he is required to hand draw an RGraph, starting from the simplest case (such as N = 1 or 2). This helps the student catch his own mistakes if the algorithm has problems.

In the literature, many books (Cormen, Leiserson, Riverst, and Stein, C., Horstmann, 2002) and lecture notes posted on the Internet (National Institute of Standards and Recursion Technology, 2005; Tree, 2007; Recursion Tree,1997; Turbak, 2001) recursion trees showing how recursion progresses to degenerated cases. The recursion trees in these references indicate the abstract Our investigations can help Computer Science educators better understand how students learn a critical and difficult concept in the discipline by using algorithm visualization technology.

algorithmic recurrence relationship. Our RGraph shows the detailed invocation sequences from one layer to another, such that the flow of the calls is traceable. The precise difference between a recursion tree and an RGraph will be discussed in the section entitled "Comparison between an RGraph and a Recursion Tree." Additionally, various algorithm animations (Davidson, n.d.; Jeliot, n.d.; JHAVEPOP, n.d.; McHugh, n.d.; Haug, n.d.; Stern and Naish, 2002) are also available on the Internet. Our RGraph software tool differs from these animations in that the flow of calling sequence is depicted in RGraphs, such that one can trace the process of recursion explicitly.

This paper performs pedagogical investigations into a technique to improve student learning in Computer Science education. The focus on student learning is one of the key elements explored by Scholarship of Teaching and Learning (SoTL) (Bruff, n,d.; Hutchings & Shulman, 1999). Hutchings and Shulman (1999) state that "SoTL is not only done publicly to invite critical review and exchange of ideas but also with an emphasis on inquiry into student learning." Our investigations can help Computer Science educators better understand how students learn a critical and difficult concept in the discipline by using algorithm visualization technology.

The rest of the paper is organized as follows. The "Teaching the RGraph" section defines an RGraph, and describes the functionalities of RGraph software

tool. The "RGraph Examples" section provides several examples of constructing RGraphs. The "Comparison between an RGraph and a Recursion Tree" section compares an RGraph with a recursion tree. The "Experimental Result in Student Learning" section reports the experimental result of student learning in using RGraphs.

Teaching the RGraph

In the sections that follow, we define RGraphs and describe how students are introduced to RGraphs. To help readers understand how RGraphs help students learn the concept of recursion, three examples are introduced in the main paper. The first two examples, forward () and backward () functions, are two of the most revealing examples in demonstrating the concept of recursion in the authors' teaching experience. In particular, using these two examples, beginning students can trace the flow of recursion, grasp the elements involved in recursion (i.e., terminating condition, nth term depending on (n-1)th term), and understand the importance of the placement of a recursion call in the program. The third example illustrates how RGraph shows the process of recursion more clearly as compared to the common recursion tree approach in the current literature. The experimental result following these sections shows how student learning is improved in understanding the concept of recursion.

Definition

An RGraph is a directed graph, showing the invocation sequence of function calls. It is built layer by layer from top to bottom (i.e., breadth-first instead of depth-first), with directed edges indicating the processing sequence. To trace a recursion algorithm in an RGraph, depth-first search is used. Except for the directed cycles formed by the edges, an RGraph looks a lot like a tree.

Formally, an RGraph is a directed graph consisting of a set of vertices, V, and a set of directed edges, E. There are two types of vertices in set V: oval and square. An oval vertex indicates a recursion call, whereas a square vertex shows a pre-processing statement prior to a recursion call or a post-processing statement after a recursion call.

A vertex can have multiple outgoing edges, pointing to different directions: (1) down to a vertex in the next lower layer, (2) right to a vertex in the same layer, or (3) up to a vertex in the next higher layer. The order of the execution sequence is (1), (2), and (3) for any existent outgoing edges. In essence, depth-first search is observed. More precisely, if a vertex has a downward pointing edge, the vertex pointed by the edge will be executed first. The upward pointed vertex will be called last after the current vertex has been executed.

RGraph Software

The RGraph software tool was designed and implemented at the university where the authors teach in early 2009. Its user interface is shown in Figure 1, in which a user can specify a computer program and the methods within the program to be traced. After the user clicks on the "Generate Graphs!" button, a graphical output is generated showing the sequence of method calls. For graphical accessibility, a user can zoom in and out of a graphical output display.

RGraph Examples

In this section, examples are shown using a prototype language similar to the syntax in Java programming language. Note that an exact programming language is not used in this paper, simply because many programming language such as C, C++, Java, Prolog, and Lisp can be used to implement the algorithms.

Example: Recursive Print

Printing a list of elements in a forward order or a backward (i.e., reverse) order can be done using a recursive algorithm. The following show both forward and backward printing algorithms

where function head(LIST) extracts the first element in the LIST, and function tail(LIST) returns a list consisting of the rest of the elements excluding the head element. For example, head(ABCDE) returns element A, and tail(ABCDE) returns the list BCDE. Notice that the difference between forward() and backward() is simply the position of print() function relative to the recursive invocation.

Figure 2 shows an RGraph for printing list ABCDE by invoking forward("ABCDE"). Figure 3 shows an RGraph for backward("ABCDE"). Notice that a vertex such as forward("BCDE") in Figure 2 has multiple outgoing edges. In this case, the edge going downward to the lower layer should be executed first, effectively, performing the lower layer subroutine call first. By following the sequence of print() statements in both Figures 2 and 3, one can obtain the printed orders for list ABCDE.

Example: Partial RGraph

The field "Percentage of missing labels" in Figure 1 indicates whether an RGraph is complete (i.e., 0% missing label), or partial. Figure 4 shows an example of an RGraph where 30% of labels are missing from the complete RGraph in Figure 2. A partial RGraph can assist student learning by having students think about what labels are missing, and can be used to assess students' understanding of recursion concept.

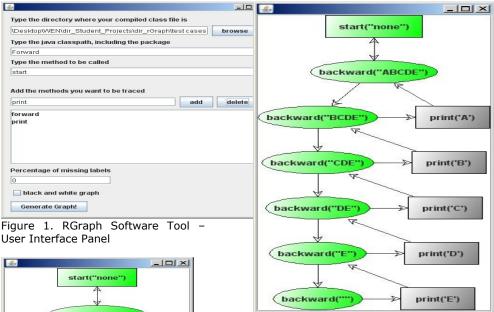


Figure 3. An RGraph for Backward Printing of list "ABCDE"

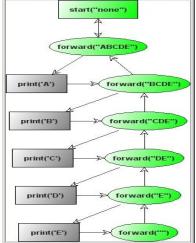


Figure 2. An RGraph for Forward Printing of list "ABCDE"

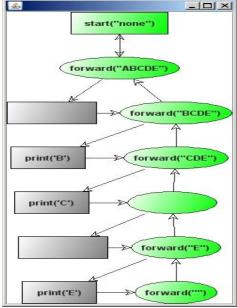


Figure 4. An RGraph for Forward Printing of list "ABCDE" with 30% of labels missing

58 Volume 5 ● 2010

Comparison between an RGraph and a Recursion Tree

This section compares an RGraph and a recursion tree. As stated in the Introduction, the major difference between an RGraph and a recursion tree is that a recursion tree exhibits an abstract concept; whereas an RGraph shows a detailed invocation sequence.

To illustrate the difference, we use the recursion tree in Figure 5 of chapter 17 in (Horstmann, 2002) as a comparison example. In this example, the growth of rabbit population is being calculated. The following describes the problem specification.

In a simplified rabbit-growth world, a rabbit, in its first two months of life, does not bear babies. Every month after the first two months, each male and female pair gives birth to exactly one pair of male and female babies. The problem is to find the number of rabbit pairs after n months starting with just one pair of rabbits. Define rabbit(n) as the number of rabbit pairs in n months. The recurrence relation of the problem can be formulated as

$$rabbit(n) = \begin{cases} 1 & if \quad n = 1 \\ 1 & if \quad n = 2 \\ rabbit(n-1) + rabbit(n-2) & if \quad n > 2 \end{cases}$$

A recursion tree for the recurrence relation in the above equation is illustrated in Figure 5 for the case n=5. An RGraph for the same recurrence relation is shown in Figure 6.

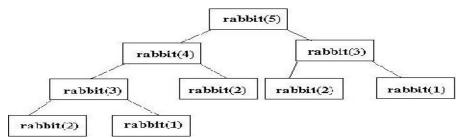


Figure 5. A Recursion Tree for counting rabbit growth

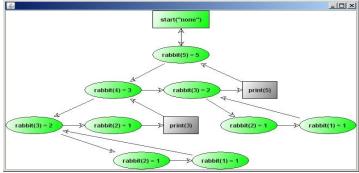


Figure 6. An RGraph for counting the rabbit growth

Comparing Figures 5 and 6, an RGraph explicitly shows the calling and returning sequence by following the direction of the edges; whereas Figure 5 only shows how the recursion progresses to degenerated cases.

Experimental Result in Student Learning

The RGraph software was implemented in 2009. In the past, before RGraph software was available, students would hand draw RGraphs for recursion problems. In the interest of understanding how the RGraph software tool impacts student learning, in 2009 fall semester, we conducted RGraph pre- and post- surveys in 3 undergraduate Computer Science courses, ranging from Discrete Mathematics to Programming Languages, with a total of 34 students. Each survey is given 5 questions as listed in Table 1 with a value of 5 (Strongly Agree), 4 (Agree), 3 (Neutral), 2 (Disagree), 1 (Strongly Disagree), and 0 (not applicable). Table 1 shows the average result of the pre- and post-surveys. Prior to using RGraph software, since students do not know what RGraph is, the pre-survey shows that the students are neutral about RGraph. After introducing RGraph software, it can be seen from the survey result that in general, students strongly agree in all questions regarding the use of RGraph software tool.

Table 1. RGraph Pre-Survey and Post-Survey Result

| Survey Question | Pre-Survey | Post-Survey |
|---|------------|-------------|
| | Average | Average |
| (A) RGraph can help me trace the flow of recursion | 3.65 | 4.59 |
| (B) RGraph is a visual aid to illustrate the process of | 3.85 | 4.88 |
| recursion | | |
| (C) Compared to Horstmann's Recursion Tree, | 3.15 | 4.62 |
| RGraph can show the process of recursion more | | |
| clearly | | |
| (D) RGraph helps me understand the concept of the | 3.44 | 4.56 |
| recursion | | |
| (E) Using RGraph, I am more comfortable with the | 3.41 | 4.53 |
| concept of recursion | | |

Summary and Conclusion

The concept of recursion is important to many fields of study, especially when many applications rely on computer software for data analysis and prediction. Through years of conveying the concept of recursion to students in Computer Science, the authors have found that learning recursion is nothing more than the old saying: practice makes perfect. However, just as in most learning environments, an adequate learning tool is the key to success. Our invention of RGraph makes the concept of recursion illustratable and traceable, thereby allowing flexibility in demonstrations and focused pedagogical interactions on the part of students.

The model provided in this paper is reflective of one of the goals of the scholarship of teaching and learning (SoTL), in which "the faculty frame and systemically investigate questions related to student learning—the conditions under which it occurs, what it looks like, how to deepen it" (Hutchings & Shulman, 1999). In this paper, we investigate how a visualization technique helps student learning in Computer Science. Our example of pedagogical research can be generalized to other fields of study. Our experimental result shows that an RGraph is a valuable learning and teaching tool.

References

AP Central - Teaching Recursion (n.d.)
http://apcentral.collegeboard.com/apc/members/courses/teacherscorner/4
5406.htm

Bruce, K., Danyluk, A., & Murtagh, T. (2005). Why structural recursion should be taught before arrays in CS1. ACM SIGCSE.

Bruff, D. (n.d.) The Scholarship of Teaching and Learning (SoTL.) Vanderbilt Center for Teaching. http://www.vanderbilt.edu/cft/resources/teaching_resources/reflecting/sot l.htm#what3

Cormen, T., Leiserson, C. Riverst, R, & Stein, C. (2009). *Introduction to Algorithms*. Boston: The MIT Press.

Dann, W., Cooper, S., & Pausch, R. (2000). Using visualization to teach novices recursion. Proceedings of the 6th Annual Conference on Innovation and Technology in Computer Science Education, Canterbury, England, pp. 109-112.

Davidson, A. (n.d.) Eight Queens Java Applet.

http://cpaz.ca/aaron/SCS/queens/

Gal-Ezer, J. & Harel, D. (1998). What (else) should CS educators know? Communications of the ACM 41, 9, pp. 77-84.

Haug, F. (n.d.) Relevant algorithm animations/visualizations (in Java). Chapter 5. Recursion. http://www.ansatt.hig.no/frodeh/alg met/animate.html

Horstmann, C. (2002). *Big Java*. John Wiley & Sons, Inc.

Hsin, W.-J. (2008). Teaching recursion using recursion graphs. In the conference proceeding of Consortium of Computing Sciences in Colleges. April.

Hundhausen, C. Douglas, S., & Stasko, J. (2002). A meta-study of algorithm visualization effectiveness. *Journal of Visual Languages and Computing*, 13(3), 259-290. June.

Hutchings, P. & Shulman, L.S. (1999). The scholarship of teaching: New elaborations, new developments. Originally published in the September/October 1999 issue of Change.

http://www.carnegiefoundation.org/e library/docs/sotl1999.htm

JHAVEPOP. (n.d.) Linked list manipulations using JHAVEPOP. http://jhave.org/jhavepop/java/exerc ises.html

McCracken, D. (1987). Ruminations on computer science curricula. *Communications of the ACM, 20*(1) 3-5.

McHugh, J. (n.d.) The animation of recursion.

http://www.animatedrecursion.com/intro/introduction.html.

Moreno, A., Myller, N., Sutinen, E., & Ben-Ari, M. (2004). Visualizing programs with Jeliot 3. Proceedings of the International Working Conference on Advanced Visual Interfaces AVI 2004, Gallipoli (Lecce), Italy.

National Institute of Standards and Technology. (2005). Recursion tree. http://www.itl.nist.gov/div897/sqg/d ads/HTML/recursionTree.html.

Recursion Tree. (1997). http://www.cs.duke.edu/courses/fall 97/cps130/lectures/lect04/node24.ht ml.

Recursion Tree. (2007). http://homepages.ius.edu/rwisman/C 455/html/notes/Chapter4/RecursionT ree.html. Stern, L. & Naish, L. (2002). Animating Recursive Algorithms. http://imej.wfu.edu/articles/2002/2/02/index.asp

Turbak, L. (2001). Recurrence in CS231: Algorithms. http://cs.wellesley.edu/~cs231/fall01/recurrences.pdf.

Wu, C., Dale, N., & Bethel, L. (1998). Conceptual Models and Cognitive Learning Styles in Teaching Recursion. ACM SIGCSE.

Leonardo Sa is currently a senior in the Department of Computer Science, Information Systems, and Mathematics at Park University. His interest is in the area of computer programming and networking. He has many years of working experience as a program analyst prior to coming to Park University.

Wen-Jung Hsin received her interdisciplinary PhD in Telecommunications and Computer Science at the University of Missouri - Kansas City. She is currently a professor in the Department of Computer Science, Information Systems, and Mathematics at Park University. Her teaching and research interests are in the areas of Computer Science education, computer networking, and network security.

62 Volume 5 ● 2010

Teaching & Learning for International Students in a 'Learning Community': Creating, Sharing and Building Knowledge

Linzi Kemp, PhD

Assistant Professor, Department of Management, Marketing & Public Administration
American University of Sharjah

This article considers the culture of learning communities for effective teaching. A learning community is defined here as an environment where learners are brought together to share information, to learn from each other, and to create new knowledge. The individual student develops her/his own learning by building on learning from others. In a learning community approach to teaching, educators can ensure that students gain workplace skills such as collaboration, creativity, critical thinking, and problem solving. In this case study, it is shown how an active learning community, introduced into a blended teaching environment (face-to-face and virtual), effectively supported international undergraduates in the building of knowledge and workplace skills.

This article considers the value of a learning community for the effective teaching of international students. Specifically, the learning community in this article included two sections of business undergraduates, enrolled in a junior-level elective course on Leadership at a university in the United Arab Emirates. The students participated in a blend of face-to-face (F2F) and online interactions. The rationale behind the inception of a learning community approach to teaching was to increase students' ability to create, share, and build knowledge together. The article aims to help educators understand how the creation of a learning community composed of students of different nationalities can be a more effective teaching methodology than traditional teaching. Although this teaching location is outside of the United States of America, the material in the article is of value for multicultural classrooms worldwide.

Learning Community - Definition

The formal definition of learning community begins with Tinto's (2003) observation that students are usually "watchers" in class, listening passively as the teacher talks. Tinto (2003) was concerned about the disconnect that ensued for students: disconnect between students and the institution, and disconnection

between students and their learning. Passive causes disconnection because students are not able, nor are they led, to make connections in their learning across the disconnect curriculum. Furthermore, can happen students passively as accept information rather than actively apply it to the world of employment. These

Passive listening causes disconnection because students are not able, nor are they led, to make connections in their learning across the curriculum.

disconnections can lead to student failure in individual courses, and a failure to retain those students to degree success. In Tinto's (2003) opinion, a restructuring of learning is necessary to increase students' connection with each other for each student to become a resource for others. Furthermore, connection between the student and the institution is necessary to gain maximum learning potential from other resources; examples would be the library, other professors, and writing centers. Knowledge would flow more effectively, according to Tinto (2003), if a new

model of teaching and learning was introduced "that enables students to take courses together, rather than apart" (p. 1). This theme of connection is followed by Gabelnick et al. (1990), when they consider that a learning community is very much about deliberately putting students in a relationship with other students in courses. Price (2005) maintains the idea of relationship building when proposing that small groups of college students can be kept together as a cohort while they are studying. A consideration then is that in the classroom it is important to connect students with each other and to resources.

Tinto and Goodsell-Love (1993) studied first-year students in three collaborative learning programs in the United States. Through quantitative and qualitative research methodology, their studies concluded that: 1. Collaborative learning develops a community of peers which promotes student attendance and class participation. 2. Perspectives from a variety of learning sources were strongly influential on students, that is, beyond the one teacher as expert and only deliverer of knowledge. 3. Student academic performance was greater in collaborative learning settings, and students viewed the learning differently. Students created and shared new knowledge rather than individually memorizing and reciting it for the teacher only.

The continuing value of a learning community is in its emphasis on collaboration, "learning is better together" (Tinto, 2003, p. 2). Collaboration ensures a practical value because students come together and more learning is shared. Presumably, there is also a suggestion from Tinto (2003) that collaboration is 'better' because learning becomes enjoyable. The purpose of a learning community is to focus not just on the 'me', though, but on what the learning is giving to all collaborators, "a sense of shared purpose" (Demaris & Kritsonis, 2008, p.2). This value is succinctly pinpointed by Geitner and Ditzhazy (1994) in the title Community: Engaging Individualism and Collegiality in Pursuit of Shared Purpose. Learning can be considered a collaborative enterprise, as individuals are engaged together for that common purpose. Thus collaboration is an important facet of a learning community.

The formal model of learning community is beyond what the author attempted in this international setting. It was rather the culture of the learning

community model that was adopted; a culture of collaboration and connection. Hence, the author here uses the term 'learning community' without capital letters to distinguish it from the national Learning Community movement in the United States.

Collaboration ensures a practical value because students come together and more learning is shared.

As of March 10, 2010, 284 Learning Communities were listed in the National Learning Community Directory (Washington Center, 2010). Recognition of the value of learning community in this wider definition helps practitioners to consider how such a culture can be introduced into their own classroom context.

Learning Community - Value

Roth and Lee (2006) trace the idea of learning communities back to Cognition in Practice (Lave, 1988) and Situated Learning (Lave & Wenger, 1991, p. 27). Roth and Lee (2006) maintain that "communities at large are characterized by common ways of doing things," and the community defines the common way, rather than there being teacher-imposed rules (p. 30). A value here is that students become self-directed learners, moving away from passively waiting to be told when and how to do something. Wenger (1998) used the term "communities of practice" to describe those environments where educators (as lifelong learners) learn about their own practice. A community of practice is a learning community, formed where

community members become connected through what they do and through what they learn together. It is about mutual engagement in similar activities, which can be for work or for study; a defining element is that there must be a joint enterprise. The value of mutual support, joint enterprise, and communal resources within the setting of a community of practice also fits within the setting of learning communities.

Colleagues in a community of practice share their learning about teaching methodology, reflecting on the practice together, and thus opening all their reflection and practice to public gaze. Just as students in a learning community will share and reflect on their learning, as they too open themselves up to the gaze of their classmates. Foucault's (1994) notion of "gaze" in organizations construes that control is enforced by such surveillance (Arac, 1988; Boje & Dennehy, April, 2000, p. 17). The gaze is directed onto everything and everybody where all activity is subject to such surveillance. Surveillance is thus positively enabled as students are expected to provide feedback to each other through peer review in a learning community (Bielaczyc & Collins,1999, p. 6). A value is gained through such surveillance, as students offer constructive criticism, and in turn receive valuable feedback from their classmates.

Dodge and Kendall (2004) believe learning communities have a value in

enhancing future employability, as they "foster workforce skills and encourage problem-solving skills" (p. 150). In a learning community, both individual and group activities take place, both can help with enforcing skills useful in the workplace (Bielaczyc & Collins, 1999, p. 4). In the workplace, individuals are expected to work, sometimes alone and sometimes in groups, but in the end their contribution comes

Colleagues in a community of practice share their learning about teaching methodology, reflecting on the practice together, and thus opening all their reflection and practice to public gaze.

together for the benefit of the organization. Furthermore, other work skills, e.g., motivation and self-regulation (Dodge & Kendall, 2004, citing Stefanou & Salisbury-Glennon, 2001) are fostered in a learning community. Motivation is enhanced as the individual's contribution is valued by all in a group because it contributes to task fulfillment. Self-regulation skills are learned as the individual keeps within the task parameters agreed to by group members. The learning of such skills as problemsolving, motivation, and self-regulation "ultimately serve[s] students well when they enter the workforce and seek leadership positions" (Dodge & Kendall, 2004, p. 150). Another valued workplace skill to develop in a learning community is that of teamwork; specifically, learning communities concentrate on the sum of all members' learning, and what that contributes to the improvement in an individual's learning. A team is synergistic or greater than the sum of its parts: "teamworking is achieving the more successful completion of a task by working together, than the separate individuals would have done by working alone" (Leith, 1995, p. 802). Bielaczyc and Collins (1999, citing Scardamlia & Bereiter, 1994, p.2) propose that members of a community achieve individual understanding through collective effort. In a learning community approach, by teaching how to share knowledge and how to learn from each other, educators ensure that students possess workplace skills of value for gaining and staying in employment.

Learning Community - Stages

The following stages reveal how this learning community addressed the learning needs of students through a classroom project to explore leadership in the region.

For the student population in this article, each class contains a diversity of learners because the student body is composed of a great many nationalities. Evidence of this can be found in the university factbook; in spring 2010, there were 80 different nationalities studying at the university (AUS, 2010b). Different nationalities may have diverse positions on what college learning is about: rote learning versus experiential; some see teacher as expert, others value teacher as guide; individual competiveness for grades as opposed to group collaboration. So many different nationalities in the classroom bring the benefit of diversity and varying perspectives about college level learning, and thereby creates the need for a shared culture to bring these learners together. To Roth and Lee (2006), shared culture has a great deal to do with forming a community, a point that is of particular relevance to a learning community in an international setting because of the innate student diversity. The learning culture embedded in a learning community is the place for students of many nationalities to create, share, and build knowledge, through connection and collaboration.

A learning community needs to possess an identity, a sense of "who we are" (Bielaczyc & Collins, 1999). Creating a learning community thus starts with a vision initially articulated by the teacher, a vision that students will build the community through the work they do. Benefits of the learning community approach

are explained to students, before the teacher shows what is tangibly offered by way of current resources. A community of practice is based on communal resources, resources that are available to all (Wenger, 1998, p.2). The concept of a learning community has to be explained to students in small stages though, as to spend a long time at one session talking about the concept can be to the detriment of a

The learning culture embedded in a learning community is the place for students of many nationalities to create, share, and build knowledge, through connection and collaboration.

learning community. A long time would be to spend a whole first class or even subsequent large percentages of class time talking about the learning community. That would cause a return to passive learning, teacher talk and student listen, over talk could lead to boredom, and the teacher taking up too much time away from the timetabled subject. In most classrooms, the teacher tends to direct the activities, "typically spending most of their time interacting with the better students" (Bielaczyc & Collins, 1999, p. 5). The teachers' position in the learning community needs to be explained briefly, and often as one of facilitator, coach, support, resource finder. I recommend introducing the idea of learning community through a quick overview, 10% of time perhaps in the first week or two of classes.

The teacher is a 'model' for the learning community in each class period; pointing out shared resources; expressing satisfaction on what students have learned from each other, etc. These methods will benefit the students in their progress through a course by reinforcing the benefits of learning community, by signaling 'best practice', and by rearticulating the vision as the community develops. An effective strategy for introducing the learning community identity and culture is for the teacher to demonstrate or highlight examples of the learning community as it happens in the classroom. This could be through praising an incident of learning community in action, or through adding or pointing out a resource for students. In a learning community, learning how to learn better is important. In summary, in the learning community approach, the teacher organizes and facilitates activities with all students; visioning continues; direction is lessened by the teacher as student ownership takes over.

66 Volume 5 ● 2010

As a complementary environment to building a community in the F2F classroom, there is the supplement of an online learning community (Palloff & Pratt, 1999). Often, teachers are in the situation of teaching two or more sections of the same subject, so the description of how learning was combined and transferred across sections in this learning approach may help colleagues. As two sections of students are studying the same course in this case but at different times, so they were able to share their knowledge across teaching sections in this learning community. Without the idea of a community being introduced, Section i (9:30 a.m.) would have no access to knowledge from students in Section ii (2 p.m.) or vice versa. Different sections in time shared work about leaders and leadership via the Learning Management System known as Ilearn, a customized version of Blackboard. A learning management system (e.g., Blackboard) is essential, but a teacher does not need to be a technology expert to set this up for student access to an asynchronous community. It is hoped that following a similar strategy for readers of this article would enhance teaching and learning for them across sections.

An electronic medium makes other opportunities for community possible; it can extend rather than replace the F2F community. Knights (1997, citing Barglow, 1994, pp.183-184) however, suggest there is a fallacy in the idea that electronic media will lead us to a wider community (global village) because it represents "the

construction of a network of tunnel visions: a world totally compartmentalized along lines of social class and professional specialization" (p. 13). Such warnings about compartmentalization through technology make teaching through a learning community

An electronic medium makes other opportunities for community possible; it can extend rather than replace the F2F community.

of even greater importance. In a blended classroom experience, demonstrating how electronic media can add to and enhance learning through collaboration sends a message to community members (students) of how technology can be utilized for a more positive learning culture. There is no need to make judgment as to whether a F2F learning community or online learning community or blended community is best; they are all available for effective teaching and learning to take place. As a teacher it is worth recognizing that the answer to the question of the best way to teach is not the electronic media, but in using any available environment to build relationships between international students.

It is relationships that form a community, so a variety of student-student and student-teacher relationships can be nurtured by a variety of teaching environments (Kurucz, 2006). Students have their own views on forming relationships, and capturing such a variety of views is desirable. Student to student relationships are nourished as they share work with all students in discussion, in writing, in group work. The student-teacher relationship turns from director of learning to facilitator of learning, seen and heard physically in the F2F classroom and virtually online. Thus, F2F plus online teaching environments in a blended approach, bring out and enhance the effectiveness of relationship building through the work that students accomplish. The community builds as the relationships change and flourish. An environment is best where students are brought together rather than kept apart in a course, so that learning forms a relationship between students. The relationship increases the resources available to students, as now they also have each other as a resource.

The online environment becomes a repository of resources such as stored course presentations and materials for each class. Announcements and schedules in

the electronic setting keep the students informed as to what is going on in the learning community. Until students are used to accessing the online area before, during, and after classes, email alerts can trigger a visit. Students are supposedly used to accessing such social networking sites as Facebook on a regular basis and without prompting, so it is feasible to consider that, with repetition, accessing the online learning community becomes automatic. Duncan-Howell (2010, citing Bond, 2004; Cornu, 2004; Matei, 2005) discusses how the electronic media make it possible "for individuals to interact, learn and access knowledge and resources within a social space" (p.326). Tinto and Goodsell-Love (1993) write about the many voices of faculty being present as they team teach a cohort in the structure of the formal learning community. The presence of other faculty may not be possible without the formal learning community, but in a blended F2F and online learning community, other voices as a resource can be heard through external links accessed by students.

As its members become embedded in the community environment, so they connect with each other, and the learning culture builds. The connection of peoples' knowledge, one with each other, is symbolic of the building of a collective culture focused on learning. The culture is then nurtured as a diversity of expertise is valued, with members of the community working together through shared objectives (Bielaczyc & Collins, 1999).

Stage 3) Working together in the Learning Community

To hear what was needed in this international setting, the teacher listened to the student voices pointing out that the course text lacked examples of international leadership, concentrated on Western leaders, and ignored Arab leaders. Gabelnick et al. (1990) and Taylor et al. (2003) confirm that learning communities are based on a common theme. A common theme of exploring leaders in the Middle East had naturally arisen to connect the students in this learning community. Gabelnick et al. (1990) have an appreciation of the sharing that happens in learning communities, "a vital sense of shared inquiry." The general inquiry that all students follow during this course for the semester is, What are the traits/abilities/characteristics of a leader? The course outcome is that a common theme of leadership in the Middle East is shared across sections, and more knowledge is gained about leadership traits of these leaders. The theme of leaders in a geographical setting could be followed by other teachers, while another theme could be to compare leadership traits across geographical locations.

Rather than each student separately choosing a leader and a leadership trait to study, they added their leader and trait to a list that was open to be viewed by all. This information was coordinated through the use of a wiki, which is a student-editable document held in the virtual community resources. The criteria included a specification that each leader had to be different. This activity helps to ensure that a range of leaders are studied, as previously students were apt to choose the same famous ones. Each student studying a different leader also avoids the concern over copying, as all work is seen by all members (teacher and students) in the learning community and thus the possibility of copying is avoided. A clear differentiation is made by the teacher between shared learning and copying another's' work. It is a fine line as to when to share, what to share, and when is sharing carried too far and remains somebody else's work. However, balance is attainable in a learning community because the gaze of all is on everybody's work. For the important aspect of academic honesty, a learning community helps students to learn how to use peer scrutiny as a resource to benefit their own work.

Then students share their justification of why they chose to study that particular leader. Each student posts a paragraph of justification within a blog. This

enables the teacher to comment on their justification, and the students in turn to respond to that comment. Each student is then requested to peer review a posting through the 'comment' facility. Thus, each student has at least studied others' justifications and has practiced a peer review. This activity is in contrast to an individual student submitting a justification to a teacher who evaluates and returns it to student. In that approach, only one student benefits from comments, a one-to-one feedback situation. However, in the learning community, there is a many-to-many relationship as many have contributed to a review and benefit from reviews of others.

Each student next adds their research work on their individual leader to a wiki. As all blogs and wikis are open to view, students are able to read about and find out what others are researching. Then each student can read what others have been working on, and also edit one another's work. Admittedly, the strange names for electronic learning tools, such as wiki and blog, are a distraction which can be a potential barrier to learning; also, some learners may still not be familiar with these writing tools. However, it is as well to make use of these technological supports for their practical advantages. I simply explained that a blog is a space in which to post a comment and receive comments from classmates and teacher, and a wiki is a word document that all students could contribute to and be able to edit. These international students appeared to know what to do, and they were advised to call on their classmates or teaching assistant for help if puzzled. A quick demonstration with a teaching assistant helped; I did not consider that explanations of the meanings of blog and wiki would help. It may be that readers would prefer to spend more time on demonstration in class, depending on their students' abilities.

Another page is added to the wiki—a list of references being used in their research. Students add to this, and in so doing build a class list of shared references. This activity helps students to practice the particular formatting of

references (APA or other designated style). If a student posts a reference, then another student can use that as a model or edit mistakes. The drive for research skills as a learning outcome in undergraduate curricula makes this step applicable across subjects.

Each student then prepares and delivers a short oral summary (max 5 minutes)

All students need to be involved in some way in the project, and the organization of the roles is a decision for the students themselves.

on their leader. Written notes are made on the information delivered, and questions are asked by other students at this oral summary. Some students choose to record this delivery. On an interesting note of how a learning community can help with accommodating cultural and gender issues; in the project described above, female Emirati students do not wish their image to appear, thus recording is optional. However, prior recording served as a way around an issue for a very religious male Emirati student unable to make eye contact with females (including his Western teacher) due to a sense of 'disrespect'. A win win situation for learners is in a learning community where their individual cultural needs can be met through choice in learning activity. Dodge and Kendall (2004) consider that a learning community, composed of multiple nationalities, adds learning about intercultural communication.

All students need to be involved in some way in the project, and the organization of the roles is a decision for the students themselves. Thus there is skills enrichment in the form of negotiation, leadership and team-building through partnership and team/group activities. Trust, of course, has to be built up, and certainly in the early days of a semester, students need to work with peers they feel comfortable with. Enabling students to choose their own partners/groups helps in the beginning. Then students must be gently moved from a known situation to the unknown to ensure they are exposed to others in the learning community. A way to

progress out of a comfortable learning zone is required, and attention and encouragement to work with others is practical, emphasizing the value of this to the community. By choosing the members of their groups, planning their work, and working with other groups, students establish a consistent class document. The outcome is new knowledge, created by a community of learners.

The culmination of the sharing of knowledge lies in the final product. The various leadership studies, as written by individual students, became a series of case studies of Middle Eastern leaders. This was achieved through the students working together in groups. With the help of teaching assistants, a final edit was made to the wiki to produce a consistent document. Pride in work produced is more likely when others can read your work, and it is displayed for all to see. On that point, I said that I would eventually be displaying the final wiki on the World Wide Web for all to admire and learn from this work on Middle East leaders. Whereupon a teaching assistant demanded to be able to have another edit if she and her

classmates' names were to be associated with the work! Laudable pride, but perhaps a lesson learned by the teacher that extra work can inadvertently be added by wanting to share worldwide. I imagine that students' pride in their work goes across international contexts, and suggest that teachers reading this article may want to bring that pride to the fore.

The value of a learning community of students is manifest in the trifold benefits of: (1) the creation of new knowledge, (2) the sharing of learning, and (3) the building of knowledge with others.

Without even realizing that they have been working on this, students have together begun a new book of case studies about leaders from their own local area. What is more, this book can be added to by future cohorts of students; it is a living document. There is an ambitious plan to make such a product over time build into a compendium of Middle East leaders--the ultimate perhaps in what a learning community can achieve i.e., sharing new knowledge globally.

Learning Community - Reflection

This reflection aims to inform classroom practices through bringing together the author's understanding and experiences of learning community. It is hoped to be of practical benefit in aiding readers' understanding of the value of learning community for teaching. The value of a learning community of students is manifest in the trifold benefits of: (1) the creation of new knowledge, (2) the sharing of learning, and (3) the building of knowledge with others.

Besides these major benefits of a learning community, there are a host of other considerations that add value to the classroom (virtual and physical). The rationale for the introduction of collaborative opportunities in the classroom has been extended here as the physical space of the F2F classroom; plus the online space has been used to allow a learning community to emerge, continue, and prosper. The value of extending learning beyond the set space and time of the physical classroom adds to the idea of the mobility of learning; anytime; anywhere. Students in the twenty-first century manifestly enjoy and practice mobility, remaining attached to their community of friends through PDAs, cell phones, e-mail, schedules, and social spaces. That enjoyment and practice of mobility can be extended to learning as it keeps the learner connected to class colleagues virtually. When a student leaves a physical classroom at the end of the teaching session, being still connected to a community of learners can sustain the engagement in learning until the next formal teaching session.

There is a tendency, a given perhaps in the standard business classroom of today, the textbook is to be covered during the semester. In fact, course text are

published, divided up into about 15 chapters, a convenience allowing one chapter to be taught per week during the 15 week semester (Daft, 2008; Gibson et al., 2008). Thus, the goal becomes to cover all the topics, in the belief that the mission is to complete the book with all students studying and learning the same thing at approximately the same rate. There is a mentality that breadth of knowledge is superior to depth of learning in the classroom performance. A race develops to cover all the topics in the curriculum as students and teacher strive to keep up in learning the same thing (Bielaczyc & Collins, 1999). In contrast, a learning community sustains inquiry and development of products over months' (Bielaczyc & Collins, 1999). A learning community develops through the semester. It is built up and out of the work of the semester rather than being there from the beginning. It is an organic component of the teaching environment, rather than a set piece to be drawn from. As such, this can be difficult for students to appreciate who are used to teaching and learning being fixed and available just in time. Students are for the most part expectant of handouts and presentations, not to mention a course book being ready and waiting for them. There is a lot to be gained in continuing with those very useful resources. But also the idea of creating, sharing and building knowledge from within needs to be constantly reinforced. The community of learning will die if it is not constantly fed, so each classroom session needs to encourage the idea and practice of community.

It is essential that the principle of the learning community is captured and adopted, that there is a 'physical space or facility for an intellectually stimulating environment to emerge' (Brower & Dettinger, 1998, p.16). The stimulation for the students here was that there were few case studies of leaders from the Middle East. Thus, students had a real life problem to tackle that they had recognized for themselves i.e. the lack of leadership material about local leaders. As the students

themselves i.e. the lack of leadership material addressed the issue, the collaborative project developed skills of research and critical thinking (Palloff & Pratt, 1999, p. 1). The teacher facilitated the sharing of the individual findings about leaders and leadership traits amongst all students adding to their academic learning. The sharing was achieved in multiple

The community of learning will die if it is not constantly fed, so each classroom session needs to encourage the idea and practice of community.

ways through the physical and virtual environment, in a purposeful effort to embed learning about the various leaders. The intangible learning lies in the collaborative method of working, the support for each other, and the sharing of ideas. These intangible activities need constant guidance, support and reinforcement by the teacher to progress all students in the community. The learning community is not just about the delivery of assignments; it offers more intangible learning benefits than that.

Conclusion

Brower & Dettinger (1998) are concerned that learning communities will become "just another buzzword" in teaching and learning (p.15). Another buzzword that will be used and mismanaged, and thus learning community will lose its essence of healthy collaboration, shared resources and learning together. Gabelnick et al. (1990) write of Learning Communities: Creating Connections Among Students, Faculty, and Disciplines, i.e., learning communities are more than a buzzword, they are about deep connections. Unless teachers take seriously the responsibility of teaching how to learn, then an outcome could be students who armed with their degree go out, but away from further learning. Or the outcome could be, to return to the evidence of Tinto (2003), a failure to complete their degree. The environment of a learning community could be a positive step in the

right direction for students to learn how to learn together. A macrovalue is that teaching and learning in a community setting acknowledges the idea and practicality of 'community' as a sustainable benefit; a value that on graduation, students can take with them to the workplace and social environment. In presenting this learning community in an international setting, the aim has been to bring out points of value for those teaching in other international and national contexts. I have described the key elements for a successful learning community, and through the case study here, readers may want to experiment with some of the tactics to expand their own teaching and their students' learning.

References

Arac, J. (Ed.). (1988). Foucault: Modern or postmodern? After Foucault, humanistic knowledge, postmodern challenges. New Brunswick.: Rutgers University Press.

American University of Sharjah (2010a). Mission and Goals. Accessed Feb. 2010 at http://www.aus.edu/about/mission.p

American University of Sharjah (2010b). Fast facts. Accessed Feb. 2010 at

http://www.aus.edu/ir/info.php

Bielaczyc, K. & Collins, A. (1999). Learning communities in classrooms: A reconceptualization of educational practice. From C.M Reigeluth (Ed.). Instructional design theories and models. Vol. ii. Mahwah NJ: Lawrence Erlbaum Associates.

Bielaczyc, K., & Collins, A. (1999). Learning communities in classrooms: A reconceptualization of educational practice. Retrieved March 12, 2010, from

http://isites.harvard.edu/fs/docs/icb.topic541040.files/Bielaczyc%20and%20Collins-

Learning%20Communities%20in%20 Classrooms.pdf

Boje, D. M., & Dennehy, R. (April, 2000). Managing in the postmodern world. Retrieved from http://cbae.nmsu.edu/-dboje

Brower, A.M., & Dettinger, K. (1998) What is a learning community? Towards a comprehensive model. About Campus. 3(5). 15-21.

Carroll, L. (2009). Alice's adventures in wonderland and through the looking glass. Oxford: Oxford University Press.

Daft, R. L. (2008). The leadership experience (4th ed.). Mason: South-Western.

Demaris, M.C. & Kritsonis, W.A. (2008). The classroom: exploring its effects on student persistence and satisfaction. Focus on Colleges, Universities and Schools. (2)1).

Dodge, L. & Kendall, M.E. (Fall, 2004). Learning communities. College Teaching. (52)4, 150-155.

Duncan Howell, J. (2010). Teachers making connections: Online communities as a source of professional learning. British Journal of Educational Technology. 41(2), 324-340.

Foucault, M. (1994). The birth of the clinic: An archaeology of medical perception. New York: Vintage Books.

Gabelnick, F.,MacGregor, J.
Matthews, R. S., & Smith, B.L
(1990). Learning communities:
Creating connections among
students, faculty, and disciplines. No.
41. San Francisco: Jossey-Bass.

Geitner B. & Ditzhazy, H (2008). Shaping departmental community: Engaging individualism and collegiality in pursuit of shared purpose. ERIC ED379782. Accessed March 10, 2010 at http://www.eric.ed.gov/ERICWebPort al/custom/portlets/recordDetails/detailmini.jsp?_nfpb=true&_&ERICExtSearch_SearchValue_0=ED379782&ERIC ExtSearch_SearchType_0=no&accno=ED379782

Gibson, J. L., Ivancevich, J.M., Donnelly, J.H. Jr., & Konopaske, R. (2009). Organizations Behavior, structure, processes (13th ed.). Boston: McGraw Hill.

Kellog, K. (1999). Learning communities. ERIC Digest. (ED430512). Retrieved March 11, 2010 from ERIC database: http://eric.ed.gov/ERICWebPortal/rec ordDetail?accno=ED430512

Knights, D. (1997). Organization theory in the age of deconstruction: dualism, gender and postmodernism revisited. Organization Studies. 18(1), 1-19. DOI: 10.1177/017084069701800102

Kurucz, P. (2006). How to teach international students: A practical teaching guide for universities and colleges. Victoria: Success Orientations Publishing.

Lave, J., & Wenger, E. (1991). Situated learning: Legitimate peripheral participation. New York: Cambridge University Press.

Leith, G. (1995). Teamworking. Crainer S, (ed.). Financial Times handbook of management, the state of the art. London: Pitman Publishing.

Palloff, R. M., & Pratt, K. (1999). Building learning communities in cyberspace: Effective strategies for the online classroom. San Francisco: Jossey Bass. Palloff, R.M. & Pratt, K. (1999). Building Learning Communities in Cyberspace "Effective strategies for the online classroom". Accessed March 10, 2010 at http://macqunilearners.pbworks.com /f/Building+Learning+Communities+I n+Cyberspace .doc

MDRC (2010). Learning Communities Demonstration. Policy framework. MDRC. Retrieved March 10, 2010 from http://www.mdrc.org/project_31_76. html

Roth, W.M. & Lee, Y.J. (2006). Contradictions in theorising and implementing communities in education. Educational Research Review, 1(1), 27-40.

Smith, B.L. (Fall, 2001). Challenge of Learning Communities as a Growing National Movement. Peer Review. 4(1). Retrieved September 22, 2009, from

http://www.aacu.org/peerreview/pr-fa01/pr-fa01feature1.cfm.

Taylor, K., Moore, W.S., MacGregor, J., & Lindblad, J. (2003). Learning community research and assessment: What we know now. Executive Summary. Washington Center for Improving Higher Education. Retrieved March 11, 2010 from

http://www.evergreen.edu/washcent er/resources/upload/Pages_from_Im pactLC.pdf.

Tinto, V., & Goodsell-Love, A. (1993). Building community. *Liberal Education*, 79(4), 16.

Tinto, V. (2003). Learning better together: The impact of learning communities on student success. In Promoting Student Success in College. Higher Education Monograph Series (pp. 1-8). Syracuse, NY: Syracuse University. Retrieved March 11, 2010 from http://faculty.soe.syr.edu/vtinto/Files

/Learning%20Better%20Together.pdf

Washington Center for improving the quality of undergraduate education. (2010). National Learning Communities Directory. Accessed March 10, 2010 at http://www.evergreen.edu/washcent er/Directory.asp

Wenger, E. (1998). Communities of practice: learning, meaning, and identity. Cambridge: Cambridge University Press.

Wenger, E. (1998). Communities of practice: Learning as a social system. [Published in the "Systems Thinker," June 1998]. Retrieved March, 11, 2010 from http://www.open.ac.uk/ldc08/sites/www.open.ac.uk.ldc08/files/Learningas asocialsystem.pdf

Linzi Kemp is Assistant Professor with the School of Business and Management, American University of Sharjah, United Arab Emirates (UAE) where she teaches leadership and organizational behavior. She was previously Faculty Associate, Empire State College, State University of New York, teaching and mentoring students in the Centers for Distance Learning and International Programs. Originally from the UK, Linzi has worked there in private and public organizations within education, retail and the NHS. Previous educational experience has been international, including ten years in the UAE, Kingdom of Saudi Arabia and the People's Republic of China.

74 Volume 5 ● 2010

Student Reported Growth: Success Story of a Master of Science in Education Learning Community Program

Sharon Kabes, EdD Associate Professor, Department of Education Southwest Minnesota State University

John Engstrom, EdD Assistant Professor, Department of Education Southwest Minnesota State University

Quantitative and qualitative data collected from students who have completed a Master of Science in Education Learning Community Program support the effectiveness of the learning community model in facilitating professional growth and transformation. Instructors model constructivist theory. Peer review, collaboration, and reflective analysis of theory and practice are essential components of the model. The program facilitates growth as educators build their understanding about teaching and learning, transfer their ideas and processes into the classroom, and take an active leadership role in promoting change in classrooms, school, and larger community.

The Master of Science in Education Learning Community Program at a Midwestern university has been designed to meet the professional development needs of educators. Since 1996, over 2000 graduates have reported and demonstrated transformational growth in their thinking about learning, in their teaching, and in their leadership. The master's of science was designed to be delivered in a non-traditional manner in off-campus cohorts, or, more specifically, learning communities. Data collected from students who have completed the program support the effectiveness of the learning community model. The program promotes teacher growth and transformation based on inquiry, classroom application, and critical reflection.

Current research on teaching and learning, and best practices are modeled. In addition, the master's of science program is aligned with professional development standards established by the National Board for Professional Teaching Standards (NBPTS) and the university Leadership Standard. The faculty work collaboratively to shape educational experiences that engage educators in critical dialogues and analysis of educational theory and practice. Collaboration and peer review are essential components of the learning experiences. Students participate with the same group of peers and the same faculty facilitators for the entire two-year program. Each learning community meets one weekend per month at a locally accessible site. Learning communities have been located in several states.

Learning Community Model

The learning community described in this paper differs from traditional models in several ways. A team of two university professors provides leadership in the learning community over the course of the program and oversees the organization and delivery of coursework. This structure is designed to foster elements of an effective learning community which include:

- A safe learning environment supporting risk taking, mutual respect, and critical reflection
- Constructivist format in which the learner investigates and reframes understanding

- Collaborative learning and peer review where colleagues share and receive feedback and support from permanent cohort groups.
- Readings, experiences, and activities which are spiraled over a twoyear program to build depth in understanding
- Transformational learning resulting in the revision of a learner's perspective and understanding of self
- Transferability of new learning to professional practice
- Inclusion of outside experts in content or process as necessary

Traditional cohort models often offer classes that are taught by different professors or adjuncts over a time period. In these models, classes are often taught as a single entity. As a result, students may experience a lack of continuity.

In the non-traditional learning community model described in this paper, objectives from different classes are interwoven and spiraled throughout the two year period. While the primary objectives of a course are met during a term, the objectives appear again as they are spiraled over the two year course with more intense readings and experiences, and students are moved to a different depth of understanding. There is a sense of connectedness because the classes are designed to interweave themes, theory, and practice.

In addition, students are expected to implement course outcomes into their teaching, and share their results and receive feedback from their permanent cohort teams, their advisory groups, and their job-alike teams. Van der Aalsvoort and Harinck (2000), in their review of methods for studying social interactions in instruction and learning, observed that the learner's construction of knowledge results from the interdependence between social and individual processes. The role of peers in the learning process is critical. In a properly structured group learning

environment, peers "encourage questioning, evaluating and constructive criticism, leading to a restructuring of knowledge and understanding" (Naylor & Cowie, 2000, p. 93).

The facilitators model constructivist theory and work to create a safe and positive environment where students are actively

There is a sense of connectedness because the classes are designed to interweave themes, theory, and practice.

engaged in inquiry, self reflection, collaborative learning, and independent learning. Peer review and collaboration are essential components of the model. The program facilitates growth as educators build their understanding about teaching and learning, transfer their ideas and processes into the classroom, and take an active leadership role in promoting change in classrooms, school, and larger community.

Themes are spiraled over the two-year experience, and theory and practice are examined in increasing depth. Books and articles are carefully selected to build student understanding and critical reflection skills. Students apply what they learn in the classroom, reflect on their implementations and critique them with their peers. In addition, students examine their own teaching skills, learning styles, multiple intelligences, personality and leadership styles and reflect on how these apply to their construction of curriculum and their teaching. As students build understanding through reflective and analytic engagement with new ideas and theories of teaching and learning, they deconstruct their thinking and understanding about teaching and learning and about their practice. They transform their thinking and their practice in the process.

Initially, students are asked to analyze their current teaching through the use of teaching surveys and videotaping of class sessions. They also are introduced to Adult Learning Style Surveys, Adult Multiple Intelligence Indicators, and Meyers Briggs Indicators to help them delineate more about their own learning, working preferences, and personality styles. Students are asked to reflect on how the information they have learned about themselves from each of these tools informs

what they do in the classroom. Students use these initial reflections as a baseline for determining their future growth. In the second year, students examine their own leadership styles through Leadership Surveys.

Students are also exposed to bonding activities which build community and trust. They work on team building and understanding group dynamics. Each student becomes a member of a small group called an advisory team which stays together throughout the program to critique and review presentations, writing, portfolios, and action research projects. The advisory team establishes group norms expectations, and rubrics for peer evaluations. In addition, the advisory team signs off on final projects, the portfolios, and the action research projects. Students self-assess based on growth and submit a reflection on progress which is reviewed by the advisory group prior to submitting the recommendation to the facilitators. Students are also members of a variety of homogenous and heterogeneous groups based on teaching assignment, reading materials, and research interests.

Reflection is essential to development and is the basis for transformational growth. Initially, many students feel uncomfortable with reflective writing. The first reflections are about their own teaching and observations of classroom videos. These initial reflections are usually superficial and lack depth of thought. As students progress through the spiraled materials and discuss, evaluate, and implement their new learning in their classrooms, they begin to connect ideas, themes, and theory to practice within their reflections. Unfamiliar ideas, strategies, and practices become familiar and enter into the teaching repertoire. Students grow to become thoughtful, analytical practitioners and reflection, which once seemed unnatural and awkward, becomes a modus operandi.

Educators rarely think of themselves as leaders. One of the goals of the program is to develop an understanding of how they can become change agents in

their schools and communities. Early in the process, students are introduced to the Chaos Theory of physics which explores how patterns arise out of chaos (Garmston and Wellman, 1995). Even the fluttering of a butterfly's wings can effect a change in global weather patterns.

Reflection is essential to development and is the basis for transformational growth.

The butterfly wings become a metaphor for the incremental changes which occur when new teaching and learning strategies are implemented in the classroom. This, along with the study of organizational theory and dynamics, helps students understand how they can become instrumental in facilitating positive change in the classroom, the school, and the community. Students report that they are often asked questions by colleagues as a result of participating in a master's program. The changes which occur in their classrooms are shared by their own students, and others become aware of a transformation taking place. Finally, the research they conduct becomes a catalyst for pathways to change.

The portfolio is important in the learning process for it reflects the growth and transformation in the student's thinking, teaching, and learning and becomes a work in progress over the length of the program. The advisory team members assist each other in the development of the portfolios and evaluative rubrics, and offer critical reviews during the process. The final portfolio reflections epitomize the transformation in teaching and learning as students are able to connect all of their program experiences, reading, theory, and new ideas to their actual classroom practice.

Theoretical Basis for a Learning Community

Three inter-related concepts provide the theoretical basis for this learning community model: constructivism, learning communities, and transformational learning.

Constructivism

The basis for the learning community concept lies in the theory of constructivism. According to Brooks and Brooks (1999), constructivism is a theory about knowledge and learning in which the learner is allowed to investigate and reframe understanding. Constructivism, as an epistemology, attempts to explain human learning in terms of understanding the interaction between what learners know and believe, with exposure to new events, activities, and information (Abdal-Haqq, 1999). The meaning and application of knowledge are interpreted by the learner, through experience (Rainer, 1999). Constructivism is more concerned with student understanding than with accumulated facts; further, constructivism considers the role of social and cultural contexts related to learning, rather than purely cognitive learning following abstract principles (Black & Ammon, 1992; Vygotsky, 1978; Bruner, 1996).

A constructivist learning environment utilizes experience, collaborative discourse, and reflection which, together, assist the learner to confront his or her own learning needs (Brooks & Brooks, 1999).

Viewed within the Piagetian (1964) framework, learning takes place when the learner actively assimilates and interprets new information within the framework of existing understandings. This interaction between new information and current understandings leads to learning by forcing the learner to reformulate, or reconcile, any dissonance produced by this interaction (Black & Ammon, 1992; Brooks & Brooks, 1999). Vygotsky's social constructivism emphasizes the role and influence of socio-cultural forces in which learning occurs and how that context impacts learning (Vygotsky, 1978).

Dewey (1916) concluded that the primary purpose of education is to improve students' reasoning capacities and problem-solving abilities. Students' motivations to learn must arise from perceived needs originating out of problems of interest to students; students will be motivated when their learning centers on improving their abilities to solve their "real life" problems (Ornstein & Hunkins, 1998). Learning environments in which problem solving and discovery are encouraged require teachers who facilitate student learning (Dewey).

Meaningful learning experiences are designed primarily with the learners' contexts in mind. Social constructivism, sometimes referred to as Vygotskian constructivism, emphasizes the individual's construction of knowledge through interaction with the environment (Abdal-Haqq, 1999). Although learning is an individual experience and interpretation, research indicates that people learn through interaction with others (Johnson & Thomas, 1994). In addition, Brookfield (1995) emphasizes the role of critical reflection in the facilitation of adult learning, in order to foster the expansion of a student's capacity for lifelong learning.

Learning Communities

One of the most significant developments in higher education in recent years is the emergence of adult learners as a major constituency (Maehl, 2000). In order to accommodate this growing trend into the long-held ideal of lifelong learning, universities must create programs which acknowledge and respect non-traditional adult learners' needs and interests. These new forms of education will have to

address the needs of professional practice while fostering reflective practitioners (Taylor, 1997).

Adult education has long emphasized group learning. Research dating back to 1946 has documented the role of groups to effect changes in behavior (French & Bell, 2000). Yet learning in groups, or cohorts, in more formal academic programs is a new but increasingly popular option for adult learners (Nesbit, 2001). Structurally, a cohort is often defined as a group of students who enroll at the same time and complete a course of study together. However, Norris and Barnett (1994) differentiate between a cohort's structure and its purpose. While a cohort may be viewed by some as simply a delivery method or scheduling strategy, purposeful design of cohorts fosters learning and development. Purposefully designed cohorts acknowledge the role of group dynamics and principles of adult learning (Slick, 2002).

Research indicates that successful cohorts produce a sense of belonging among members, support risk taking, and foster mutual respect and critical reflection (Brooks, 1998; Lawrence, 1997). A learning environment that is safe, caring, and trusting encourages and enables learners to bring unique life experiences to the cohort. This, in turn, facilitates "learning-within-relationships"

(Barlas, 2001), a function of equal participation leading to transformational learning. Kegan and Lahey's (2001) approach to adult development suggests that learning depends on one's connections with others and the context in which that learning occurs. A learning community also results in meaningful learning and provides the necessary support

Successful cohorts produce a sense of belonging among members, support risk taking, and foster mutual respect and critical reflection.

for the individuals (Slick, 2002). Current research on professional development supports the importance of collaborative and collegial learning environments where colleagues reflect on learning strategies which have been implemented in the classroom (Darling-Hammond & Richardson, 2009). Fogarty and Pete (2009-10) report that teachers who are involved in collaborative review of implemented practices demonstrate deeper understanding, which insures transferability of new learning to professional practice.

Transformational Learning

In 1978, Mezirow proposed a new theory of adult learning. This theory originated with his research of adult women who had returned to college after an extended absence. Mezirow (2000) found that the women who had developed a critical awareness "of their beliefs and feelings about themselves and their role in society" also changed "the way they had tacitly structured their assumptions and expectations" (p.xii). This change in thinking was a "learned transformation," and the term "transformative" or "transformational" learning was born. In his analysis of Mezirow's theory, Inglis (1997) states that "transformative learning focuses on the individual and the reconstruction of the notion of self" (p.4). Transformative learning emphasizes the learning, growth, and resulting empowerment of the individual to act accordingly. The integration of new experiences with present understandings leads to a revision, or transformation, of the learner's perspective (Nesbit, 2001).

Mezirow (2000) identifies three interrelated components in the process of transformational learning: the learner's experiences, critical reflection, and rational discourse (in which the learner acts upon critical reflection). Beliefs and assumptions are questioned, allowing for the possibility of new or revised interpretations of past experiences and present realities. Only by developing an

awareness of beliefs, values, and feelings about oneself can an individual begin the process of deep and meaningful change that constitutes learning. Changes in self-concept, examination of internalized norms, and new perspectives on past behaviors are likely to occur when adults develop the capacity for reflection (Brookfield, 1986).

In order for transformational learning to occur, critical reflection and reflective discourse are necessary. This ability to reflect on one's own, as well as others' assumptions, is inherent in the process of transformational learning (Merriam, 2004). Belenky and Stanton (2000) concluded that most adults do not have the skill to critically reflect on their thinking, nor the thinking of others. They have not had the opportunity or experience in developing this capacity.

Perhaps the most significant aspect of transformative learning is the role of critical reflection. Mezirow states that "central to this transformative process of learning is critical reflection and testing new meanings through rational discourse"

(1991, p.2). Nesbit (2001) argues that the "potential of transformative learning for graduate and continuing professional education lies in its ability to encourage 'reflection-in-action,'" which leads to improved professional practice and greater capacity for further gains (p. 5).

In order for transformational learning to occur, critical reflection and reflective discourse are necessary.

It is the individual's reflection on self that drives transformative learning. Mezirow's concept of learning based on awareness of one's beliefs and assumptions requires more than the traditional "strategies... that focused on the improvement of skills and the acquisition of new techniques" (Sokol & Cranton, 1998, p.1). This is the difference between transforming and training. The former produces an individual whose growth and learning becomes self-directed and meaningful; the latter results in an individual who is dependent on others for instruction in skill development. Brookfield (cited in Mezirow, 2000, p.125) agrees with Mezirow when he states "transformative learning cannot happen without critical reflection...."

Mezirow's theory of transformative learning has been a useful model for understanding and improving adult learning. In order to genuinely improve the teaching profession, educators must move "beyond what Freire (1970) described as the 'banking model' of teaching in which educators make deposits of information into the empty vaults of students' minds" (Sokol & Cranton, 1998, p. 1).

Learning Community Impact

Data Collection

Data collected from students who have completed the Master of Science in Education Learning Community Program support the effectiveness of the learning community model in facilitating professional growth and transformation. The impact of the learning community experience is assessed and interpreted from data collected through survey instruments administered at various points throughout the two-year program and through student formative and summative reflections. While student learning is assessed through various projects, presentations, research, and the professional development portfolio, assessment instruments are utilized to measure the effectiveness of the learning community process in facilitating student growth and development. Several dimensions of program outcomes related to student learning have been summarized in this paper.

Upon completion of the learning community program, quantitative data in the form of surveys is collected and collated for each learning community. Three surveys are administered: a Professional Development Survey, a Facilitator Survey, and a Learning Environment Survey. Summative surveys were collected from ten

different learning communities with three different facilitator teams. Kabes, Lamb, and Engstrom (2010) reported that survey data collected from students over a fiveyear cycle showed consistent scores of 92.5 per cent or above when rating twelve elements central to the learning community model and demonstrated the effectiveness and impact of the learning community model. The quantitative results include elements of best practices: learning environment, effective teaching strategies, research-based decision making, scaffolding, peer collaboration, learning community philosophy and professional growth, empowerment, practitioner, inquiry, and transformational leader (change agent).

Qualitative data in the form of summative reflections from students are also collected. All of the summative reflections of 42 students in two first-year (2009-2010) learning communities reported growth in thinking about learning, in reflection, and in teaching. All 42 respondents described themselves as different and better teachers and learners since the start of the program. Students consistently report that they have become more reflective about their teaching. All of them describe how they have learned about themselves as learners, as thinkers and as collaborators who have grown professionally. The responses mirror those collected from students since 1998. Incremental changes have occurred and transformation of their teaching and learning is developing. This gradual transformation is observed in student formative reflections. The feedback reflects the transformation of students in their thinking and in their practice and also supports the effectiveness and impact of the learning community program.

Examples of reflective responses have been selected to demonstrate how that transformation is reported by students.

Critical Reflection

Experience in a learning community pushes students to inquire into their belief structures and philosophy, underlying values, and the actions connected to them. Readings, dialogue, and classroom applications provide experiences within which thinking and classroom practices are challenged. Initially, exposure to this inquiry-based environment leads to a period of "deconstruction" in which teachers experience dissonance in current beliefs and practice in light of newly acquired knowledge and experiences. Through consistent exposure to opportunities (individual and collective), critical reflection on practice becomes a habit of mind.

Several student responses follow that indicate the occurrence or beginnings of transformative learning. Early in their learning community experience, students responded to questions designed to elicit critical reflection on their teaching practice and their thinking as professionals. Carol, a second grade teacher, writes "I am also reflecting on my beliefs as a teacher as

Experience in a learning community pushes students to inquire into their belief structures and philosophy, underlying values, and the actions connected to them.

well as [myself] as a student. I am thinking a lot about the methods I teach in my classroom and my beliefs. I am beginning to question what I am doing and why. Through my reflections, I am beginning to develop a sense of who I am, and what I really believe." These excerpts indicate that the process of critical reflection is leading to transformative learning.

Tom, a middle school teacher, describes his development by stating "I totally wanted to take this program for a financial gain, but now I see that this program will help me become a better teacher. The books, the activities, the assignments, and the groups I work with are all making me question myself and why I do something the way I do " Another student, Pam, who teaches kindergarten, states "I have been composing this reflection in my mind for many days. There are so many thoughts and 'revelations' happening...." She then describes her journey as a learner, beginning with her days as a high school student. She relates that she was always a bit embarrassed by her "love of learning" in high school and college because "it wasn't cool. For some reason, I never wanted to say it out loud." She continues by affirming her belief in herself when she says "it is a good thing to be a self-proclaimed lifelong learner!" The transformative principles of meaning, examining values, and acting are evident in her comments. In her concluding thoughts, she states that her learning is "stretching my wings.... I have reached the point where I feel strongly enough that to do the best I can for my students, I have to stand up for what I know is right for them as young learners." As mentioned earlier, these educators are only several months into their graduate studies, but the beginnings of transformative learning are evident and encouraging. The data emerging from this class of educators supports Sokol and Cranton when they conclude that "adding a few more techniques to the repertoire is always of interest, but the real, and deeper, professional development involves an examination of our self as teacher, and a thorough look at what we believe - and why" (1998, p.3).

Students often report the importance of reflection and the transformation in their teaching which has happened and will continue because of that reflection and critical analysis. "The growth that I have experienced professionally over the past two years has been tremendous. This program has made me more reflective on the quality of what I do and its effect on the students and other staff in my school. I believe that I'm much more qualified, not just to teach, but to be openly critical in my attempts to provide a better environment for my students." (Student feedback)

In the settings described above, it is evident that transformative learning is a valid approach to teacher professional development. "Adult learners engaged in this process are actively questioning heretofore invisible assumptions about self, society, role, and responsibility..." (Taylor, 2000, p.159). Teachers who have experienced transformative learning as part of their professional development will not only gain a deeper understanding of the learning process, but are likely to develop a greater sense of meaning and purpose as educators (Kroth & Boverie, 2000).

Collaboration

Collaborative problem solving leads students to share and examine their teaching practices. Breaking down teacher isolation collectively empowers teachers, and assists in developing a shared language of effective practice. Within this safe and supportive environment, teachers begin to critically examine their "teaching self," and reflect on the capacities required to perpetuate learning and growth. An important component in the students' learning community experiences, collaboration, is utilized as a means to transformative learning. Early in the

graduate program, students are exposed to writings and dialogue with colleagues that challenge their assumptions about learning and teaching. This new information and new ways of thinking about education often create the conditions necessary for what Mezirow calls a "disorienting dilemma": an experience

Breaking down teacher isolation collectively empowers teachers, and assists in developing a shared language of effective practice.

that leads an individual to question beliefs and values.

Teachers report that they have implemented the strategies and theories to which they have been exposed. This has become an integral part of their teaching repertoires. In addition, they have learned to work collaboratively to bring about changes in their classrooms, schools and communities. "This has been the best

possible learning experience I have had in 25 years of education. I was introduced to and had an opportunity to experiment with numerous teaching strategies, learning styles, and educational opportunities. We were encouraged, advised, and challenged to become better educators. Through this program, I have gained confidence in myself, as an educator and as part of a team working to make school better for students. This program far exceeds any educational class I have taken." (Student feedback).

The dialogue with other educators contributes to the individual's personal transformation by "making public...the historical dimensions of our dilemma and confronting it as a difficulty to be worked through" (Boyd, as cited by Mezirow, 2000, p.22).

Student Growth and Transformation

Intricately tied to critical reflection and collaboration is the outcome of student growth and transformation. Schön (1983) describes the process as "reflection-in-action", in which experienced educators experience transformational learning. Educators learn to use their experiences to self-assess and revise their understanding of theory, leading to more effective practice.

The transformation which takes place in the teachers also promotes growth and understanding in the teacher as a leader. "This program has challenged, stretched and inspired me to become a leader. I can hardly put in words the direct impact this program has had on me professionally. I am stepping out and taking leadership in not only my classroom, but among my staff and district. This has given me affirmation about important decisions I make in my school. I have grown more than I would have ever imagined" (Student feedback).

Over the course of their graduate program, students consistently inquire into their belief structures through meaningful, relevant readings, activities, and problem solving. Within the structure and safety of the learning community, students progress into a deeper understanding of themselves as a learner, then as a teacher. Exposure to problems of emerging relevance leads to an increased capacity to identify problems, create responsive solutions, and to evaluate their effectiveness. development encompasses overall professional specifically, competencies, and, teaching skills, and personal and professional leadership skills.

As part of the learning community experience, students examine and challenge, each other's thinking about teaching and learning and begin the transformational process in which new and deeper understandings replace what have become inadequate beliefs about teaching and learning.

As part of the learning community experience, students examine and challenge, each other's thinking about teaching and learning and begin the transformational process in which new and deeper understandings replace what have become inadequate beliefs about teaching and learning. Growing as a professional educator is seen as a continuum for the future. "I never thought that a program could have such a profound impact on me as a teacher and as a person. This program is so unique—one you can't forget. I think about the changes and the impact it has on my students all of the time. In the past "traditional" courses have been good but once the book was closed the learning experience stopped. This will not be the case with this program. It's only the beginning for me" (Student feedback).

Argyris (2000) concludes that "teaching people to reason about their behavior in new and more effective ways breaks down the defenses that block

learning" (p. 296). Experienced teachers are often revitalized as a result of their experiences. "This program has stretched me professionally and personally to heights I never thought I could attain. Furthermore, this experience has once again ignited the spark for the love of teaching I thought I had lost. The impact of what we've done in our community has reached and will continue to reach out to our classrooms, to colleagues, our families, the lives of our students, and beyond" (Student feedback).

The reflective descriptions above are representative of the types of reflections which are provided by students throughout the course of their two-year programs. The reflections support the growth and transformation which results from this learning community program.

References

Abdal-Haqq, I. (1998).
Constructivism in teacher education:
Considerations for those who would
link practice to theory. ERIC Digest.
(ED426986)

Argyris, C. (2000). Teaching smart people how to learn. In W. French, C. Bell, & R. Zawacki (Eds.), Organization development and transformation (pp. 295-305) Irwin: McGraw-Hill

Barlas, C. (2001). Learning-withinrelationship as context and process in adult education. Impact on transformative learning and social change agency. Paper presented at the Annual Meeting of the Adult Education Research Conference, Lansing, MI, June 1-3, 2001. (ED476040)

Belenky, M. & Stanton, A. (2000). Inequality, development, and connected knowing. In J. Mezirow (Ed.), Learning as transformation: Critical perspectives on a theory in progress (pp. 71-102). San Francisco: Jossey-Bass.

Black, A. & Ammon, P. (1992). A developmental-constructivist approach to teacher education. *Journal of Teacher Education*, *43*(5), 323-335.

Brookfield, S. (1986). *Understanding and facilitating adult learning*. San Francisco: Jossey-Bass.

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

Brooks, J.G. & Brooks, M.G. (1999). *In search of understanding: The case for constructivist classrooms*. Alexandria, VA: ASCD.

Brooks, P.A. (1998). Cohort communities in higher education. Proceedings of the 39th Adult Education Research Conference, May 15-16, 1998. San Antonio, TX, p. 67-71. (ED426247) http://www.edst.educ.ubc/ca/aerc/1 998/98brooks.htm

Bruner, J. (1996) *The culture of education*. Cambridge, MA: Harvard University Press.

Cranton, P. (1994). Self-directed and transformative instructional development. *Journal of Higher Education*, 65(60), Nov/Dec 1994. Ohio State University Press.

Darling-Hammond, L. & Richardson, N. (2009). Teacher learning: What matters? *Educational Leadership*, 66(5), 46-55.

Dewey, J. (1916). *Democracy and education*. New York: McMillan.

Freire, P. (1970). *Pedagogy of the oppressed*. New York: Seabury.

French, W. & Bell, C. (2000). A history of organizational development. In W. French, C. Bell, & R. Zawacki (Eds.), *Organization development and transformation* (pp. 20-42).

Garmston, R. & Wellman, B. (1995). Adaptive schools in a quantum universe. *Educational Leadership*, *52* (7), 6-12.

Imel, S. (2002). Adult learning in cohort groups. Practice Application Brief no. 24. ERIC Clearinghouse on Adult, Career, and Vocational Education. (ED472604)

Inglis, T. (1997). Empowerment and emancipation. *Adult Education Journal*, 48 (1), 3-17.

Johnson, S.D. & Thomas, R.G. (1994). Implications of cognitive science for instructional design in technology education. *Journalof Technology Studies*, *20*(1), 33-45. (EJ494218)

Kabes, S., Lamb, D. & Engstrom, J. (2010). Graduate learning communities: Transforming educators. *Journal of College Teaching and Learning*, 7(5), 47-55.

Kegan, R., Lahey, L.L. (2001). How the way we talk can change the way we work: Seven languages for transformation. San Francisco: Jossey-Bass.

Kerka, S. (1997). Constructivism, workplace learning, and vocational education. ERIC Digest No. 181. (ED407573)

Kerka, S. (2003). Does adult educator professional development make a difference? Myths and realities. ERIC Clearinghouse on Adult, Career, and Vocational Education. (ED482331)

Kroth, M. & Boverie, P. (2000). Life mission and adult learning. *Adult Education Quarterly* 50(2), 134-146.

Lawrence, R.L. (1997). The interconnecting web: Adult learning cohorts as sites for collaborative learning, feminist pedagogy and experimental ways of knowing. In 38th Annual Adult Education Research Conference Proceedings, May 16-18, Stillwater, OK, p. 179-184. (ED409460)

http://www.edst.educ.ubc.ca/aerc/19 97/97/Lawrence.html

Loucks-Horsley, S. (1995). Professional development and the learner-centered school. *Theory into Practice 34* (4), 265-271.

Maehl, W.H. (2000). *Lifelong learning at its best*. San Francisco: Jossey-Bass.

Merriam, S. B. (2004). The role of cognitive development in Mezirow's transformational learning theory. *Adult Education Quarterly*, 55(1), 60-68.

Mezirow, J. (1991). Faded visions and fresh commitments: Adult education's social goals. A Policy Paper prepared for the AAACE. Teachers College, Columbia University. Available: http://nlu.nl.edu/ace/Resources/Doc ument.statement.html

Mezirow, J. (2000). Learning as transformation: Critical perspectives on a theory in progress. San Francisco: Jossey-Bass.

Nesbit, T. (2001). Extending graduate education to non-traditional learners. *Journal of Continuing Higher Education*, 49(1) 2-10.

Norris, C.J. & Barnett, B. (1994). Cultivating a new leadership paradigm: From cohorts to communities. Paper submitted at the annual meeting of the University Council of Educational Administration, Philadelphia, PA. (ED387877) Novick, R., Grimstad, J. (1999). Actual schools, possible practices. New directions in professional development. Northwest Regional Educational Lab. (ED 429980)

Nuthall, G. (2004). Relating classroom teaching to student learning: A critical analysis of why research has failed to bridge the theory-practice gap. *Harvard Educational Review*, 74(3), 273 -306.

O'Day, J.A. (2002). Complexity, accountability, and school improvement. *Harvard Educational Review*, 72(3), 293-329.

Ornstein, A. C., & Hunkins, F. P. (1998). *Curriculum: Foundations, principles and issues (3rd ed.*). Boston: Allyn and Bacon.

Piaget, J. (1964). Development and learning. In R. Ripple & V. Rocksdale, (Eds.), *Piaget rediscovered* (pp. 7-19). Ithaca, NY: Cornell University Press.

Sargent, T.A. (2000). Linking educators' professional development to workplace/community learning experiences. Teachnet Educational Brief, No1. (ED468218)

Schön, D.A. (1983). The reflective practitioner: How professionals think in action. New York: Basic Books.

Slick, S. (2002). Teachers are enthusiastic participants in a learning community. *The Clearinghouse*, 75(4), 198-201.

Smith, C. & Hofer, J. (2002). Pathways to change: A summary of findings from NCSALL's staff development study. *Focus on Basics 5*(D), 1, 3-8.

Sokol, A. V., & Cranton, P. (1998). Transformation, not training. *Adult Learning*, *9*(3), 14-16.

Sparks, D., & Hirsh, S. (n.d.). A
National Plan for Improving
Professional Development. Staff
Development Library: NSDC Strategic
Plan. Retrieved November 11, 2006
from
http://www.nsdc.org/library/authors/
NSDCPlan.cfm

Swafford, J.O., Jones, G.A., Thornton, C.A., Stump, S.L., & Miller, D.R. (1999). The impact on instructional practice of a teacher change model. *Journal of Research and Development in Education*, 32(2), 69-81.

Taylor, E.W. (2000). Fostering transformative learning in the adult education classroom: A review of the empirical studies. Paper presented at the annual Meeting of the International Conference on Transformative Learning, New York, NY. (ED 442989)

Taylor, I. (1997). *Developing learning in professional education*. Bristol, PA: Open University Press.

Tom, A.R. (1999). Reinventing master's degree study for experienced teachers. *Journal of Teacher Education*, 50(4). 245 – 254.

Van der Aalsvoort, G.M. and Harinck, J.H. (2000). Studying Social interaction in instruction and learning: Methodological approaches and problems. In H. Cowie & G. van der Aalsvoort (Eds.), Social interaction in learning and instruction: The meaning of discourse for the construction of knowledge. (pp. 5 –20). Oxford:Elsevier Science.

Vygotsky, L.S. (1978). Mind in Society. (M. Cole, V. John-Steiner, S. Scribner, & E. Souberman, Eds. and Trans.). Cambridge, MA: Harvard University Press.

| Dr. Sharon E. Kabes, Associate Professor, is former Chair of the Department of Education at Southwest Minnesota State University. She is a member of the graduate faculty and has been a facilitator in the Master of Science Education Learning Community program since 2003. |
|--|
| Dr. John Engstrom is an Assistant Professor at Southwest Minnesota State University where he is a member of the graduate faculty. He was among the first graduates of the learning community program at SMSU; he has facilitated learning communities since 1998. |

The Growth of Higher Educators for Social Justice: Collaborative Professional Development in Higher Education

Molly K. Ness, PhD Assistant Professor, Childhood Education Fordham University

Marshall A. George, PhD Associate Professor, English Education Fordham University

Kristen Hawley Turner, PhD Assistant Professor, English Education Fordham University

Jane Bolgatz, PhD Associate Professor, Social Studies Education Fordham University

In this article, we investigate what happened when, contrary to the typical isolation of faculty in higher education, a group of higher educators from various disciplines in a graduate school of education met regularly to discuss issues related to our teaching and social justice. More specifically, we explored the following research question: How does collaboration among higher educators from various disciplines shape their beliefs and practices of teaching for social justice? Over three years of collaboration and conversation, not only did we expand our own knowledge and understandings of notions of social justice, but we began to take important steps towards increasing our social justice actions in our teaching. This article explores our efforts to create a self-directed professional development group of higher educators and provides suggestions for similarly interested higher educators.

Professional development in higher education is often lonely work. Sitting in seminars, reading scholarly journals, or preparing conference presentations happens most frequently in isolation. Though some might argue that each of these acts is dialogic, often they involve little collaboration, are intermittent, and sometimes are motivated by extrinsic factors (promotion and tenure). In contrast, research shows that the most effective forms of professional development are voluntary, ongoing, and collaborative (Brancato, 2003; Cochran-Smith & Lytle, 1999; Rogers et al., 2005; Smith, 2003). In this article, we investigate what happened when, contrary to the typical isolation of faculty in higher education, a group of higher educators from various disciplines in a graduate school of education met regularly to discuss issues of social justice related to our teaching. Brought together by our department chair who opened a forum for faculty to share research interests, our group was comprised of six to nine higher educators. The result of three years of collaboration was a journey of professional development, with rich opportunities to explore issues of social justice in teacher education. We first delineate our assumptions about adult learning and our understandings about social justice that frame the study of our three-year collaboration. We then describe our group's methodology and the process and outcomes of our work.

88 Volume 5 ● 2010

Adult Learning and Collaboration

For much of the last century, researchers who examined the professional lives of teachers consistently found that teachers work in isolation, in the insulated environment of their own classrooms (Little, 1990; Lortie, 1975). However, efforts have been made at all levels of education to break down the barriers of solitude facing teachers and to create "professional communities of teachers" (Grossman, Wineburg, & Woolworth, 2001). Scholarly literature from the field of education increasingly describes teacher inquiry groups (Chandler-Olcott, 2002; Cochran-Smith & Lytle, 2001; Fecho & Allen, 2003), educator networks (El-Haj, 2004), collaborative study groups (Lewis & Ketter, 2004; Lyons & Pinnell, 2001), and faculty learning communities (Richlin & Cox, 2004). While such professional development efforts are more common in primary and secondary school settings, the twenty-first century has seen increasing attention paid to higher education faculty involved in collaborative professional development endeavors (Brancato, 2003; Fecho, 2000; Richlin & Essington, 2004; Rogers et al., 2005; Sandretto et al., 2007).

Understandings of ourselves as adult learners guided our collaborative efforts. Specifically, we operated with two assumptions about adult learners: 1) that we, as adult learners, are motivated to learn when learning is relevant and meaningful to us (Pratt, 1998; Wlodkowski, 1999), and 2) perspective transformation can occur when we, as adult learners, engage in our own reflection-on-action (Moon, 1999; Schon, 1997) and dialogue with others (Brookfield, 1987; Mezirow, 2000).

West (1996), when discussing group learning experiences in the workplace, suggests that dialogue is the key to effective collaborative inquiry:

[Dialogue] allows for transforming the thinking that lies behind the words that are said....The goal of dialogue is to help the group bring assumptions to the surface and clarify theories-in-use, which must happen before a shared set of meanings and a common thinking process can be developed. (p. 56)

Dialogue, however, needs to be more than sporadic conversations in the hallways or a one-day retreat at the beginning of the school year. Rather, ongoing efforts at communication are crucial to the success of professional development efforts. Rogers et al. (2005) suggest that "It is generally accepted that the most effective professional development occurs over time rather than in isolated moments" (p. 348). Dialogue and extended collaboration were at the heart of the process of our study group.

Social Justice in Teacher Education: A Goal, a Process, and a Stance

As faculty at a Jesuit university, we often see and hear the motto "men and women for others"—on flyers advertising community service projects, in graduation speeches, and in the university's promotional literature. It makes sense, then, that after beginning as a group to support one another's research, we quickly identified the topic of social justice as a common, if not yet defined, thread of our interest as higher educators. We began our work together with the belief that social justice was undeniably linked to our responsibilities of preparing K-12 teachers.

Our understanding of social justice evolved during the three years of our discussions. In our reflection on this process, we are guided by the understanding that social justice is simultaneously a goal, a process, and a stance (Grant & Agosto, 2008). As a *goal*, social justice denotes equality of opportunities and outcomes for all people. It may be also be viewed as the *process* of confronting and dismantling oppressive structures and systems, the process of addressing inequalities of all

kinds, and the process of developing recognition of and respect for the values and identities of all cultural groups. Finally, taking a social justice *stance* means embracing the need for change and reflecting on one's actions and questioning "commonsense" assumptions about the way things are. The stance is a lens through which one questions the world.

The construct of social justice is complex, and ours is not the first group of educators to tackle its meaning. Rogers et al. (2005) described the stages of a four-year research group examining the complex relationships between professional development and social transformation. Cochran-Smith et al. (1999) demonstrated

"proof of possibility" to other teacher education faculty as they engaged in a "Seeking Social Justice" project at Boston College. Their nine-member multi-year collaborative research and professional development project encouraged faculty "to examine their own understandings of social justice issues as part of the process of helping their students do the same." They also sought to "encourage students to work for social

Taking a social justice stance means embracing the need for change and reflecting on one's actions and questioning "commonsense" assumptions about the way things are.

change and effectively meet the needs of the increasingly diverse K-12 school population" (p. 229). These authors suggest that the establishment of inquiry communities of "co-learners and co-researchers" (p. 233) might best facilitate the difficult work of placing social justice at the core of teacher education. The work of the Boston College faculty inspired our own "self-study" at both the departmental and individual faculty levels, as we explored our understandings of the construct of social justice as a goal, process, and stance.

Guiding Questions

As a community of "co-learners and co-researchers" (Cochran-Smith et al., 1999), we began with five broad questions about social justice:

- How do teacher educators from various disciplines define social justice?
- 2. How do teacher educators from various disciplines explore issues of social justice with teacher candidates in their courses?
- 3. What happens when teacher educators from various disciplines explore social justice collaboratively?
- 4. How does collaboration among teacher educators from various disciplines shape their understandings and visions of integrating social justice into teacher education coursework?
- 5. How can our collaboration impact our graduate students and how, in turn, can or does this work impact our graduate students' K-12 students?

While we were all anxious to get to the last question—our ultimate goal was to impact the learning and lives of K-12 students, particularly those living in poverty in the large city where we taught—we decided to focus first on our own development as educators.

The following is an account of the work that we did to answer the first four questions. We first provide an overview of the three years; we then highlight four specific activities we engaged in recursively during our exploration of social justice in our teaching. Finally, we reflect on the impact that our professional development had on our teaching and offer suggestions for others who might want to engage in similar efforts.

Our "Teacher-Educators-for-Social-Justice" Inquiry Group

Our learning community met from fall 2006 to spring 2009 at a Jesuit university in a major metropolitan area in the northeastern United States. Over the three- year collaboration, faculty members floated in and out of the group, but four core members remained voluntary participants throughout the inquiry. All of the participants had been elementary or secondary school teachers prior to working in higher education. Our areas of expertise were childhood literacy, middle school English education, secondary English education, social studies education, Teaching English to Speakers of Other Languages (TESOL), and adult education. At the start of the project, four members were in their first years of a tenure-track position, one member was in her sixth year, while the remaining member was a tenured, midcareer professor. The group was relatively homogenous in terms of class and race: most of us came from middle or upper-middle class backgrounds; one participant is Latina and the rest are white.

Members came to the group with differing intentions and interests. For example, as a junior faculty member, Molly joined in hopes of finding support among colleagues for her personal research and writing. Also a junior faculty member, Kristen became involved in order to collaborate with colleagues in research endeavors. Jane was intrigued by the opportunity to conduct collaborative research, while Marshall, having returned from a yearlong leave of absence working in a public school, was eager to rejoin the research world of higher education and to support the new faculty members who were joining the department.

Though initially we envisioned the group as a place to advance our individual research goals, as our work evolved, we began to see the process of our collaboration to be just as important as the products of our individual scholarship. At our initial meeting, we discovered that we were each exploring some aspect of critical pedagogy, language, and discourse within our specializations and that we were independently grappling with integrating social

Despite our university's commitment to ideals of social justice, we were concerned

justice into our teaching.

Though initially we envisioned the group as a place to advance our individual research goals, as our work evolved, we began to see the process of our collaboration to be just as important as the products of our individual scholarship.

that our teacher candidates were not truly understanding or enacting social justice in their teaching. We decided, then, to broaden the focus of our group to serve both as support for our individual research efforts as well as a collaborative "teachereducators-for-social-justice" inquiry group (Cochran-Smith et al., 1999; Cochran-Smith and Lytle, 2001) around issues of social justice in our own practice. We agreed to meet monthly. We also agreed that we would collect and examine multiple sources of data so that we could better understand our professional development effort as well as its impact on our teaching.

Year One: Our Journey Together Begins

After initially agreeing to focus on our intersecting interest in social justice, we decided that it would be helpful to use texts to create a dialogic space (Nystrand, 1982) where we could explore others' views in order for "new, hybrid understandings and practices to emerge" (Anagnostopolous, Smith, & Nystrand, 2008, p. 4). Functioning as a faculty book club (George, 2004) or study group (Birchak et al., 1998) continued over the next two years, as we read and discussed a number of articles and book chapters that influenced the work we were doing as a study group collectively and as teacher educators individually (see Appendix A for reading list).

For our first text discussion, we read Courtney Cazden's (2001) Classroom Discourse: The Language of Teaching and Learning. We discussed the role of language in educational settings as well as the systematic methodologies that Cazden and others have used to study classroom discourse. At the conclusion of that meeting, we agreed that it was necessary to examine our teaching and the work we were doing individually to teach for social justice.

At the following meeting, we each brought artifacts to share to help us talk about the ways that we teach and students learn about social justice. The documents we shared included assignments from our syllabi and student work that resulted from those assignments. They included linguistic biographies, lists of works of adolescent literature used to explore social justice in book clubs, lists of reading assignments in adult education with a social justice focus, a cultural field trip assignment, cultural and linguistic case study of an urban community, and TESOL student reflections on their experiences in diverse classrooms. (See Appendices B and C for examples; these artifacts served as the first data source for our self study.) Our examination of course assignments and the resulting student work confirmed Cochran-Smith et. al's (1999) suggestion that individuals construct social justice differently. Our discussion made it evident that group members did not operate with common, or even well-defined, understandings of the term social iustice. This led us to two uncertainties that we felt the need to address: How do we, as a group and as individuals, define social justice? How can we be sure that our students are not merely parroting notions of social justice because they think they are supposed to?

Our Efforts to Define Social Justice

In an effort to capture our understandings of social justice, we decided to each write definitions of the term *social justice* and bring these to our "dialogic space" during the first meeting of the spring term. This marked our first use of the practice of professional development through writing (Diaz-Maggioli, 2004). It also marked the first formal philosophical steps that many of the group members had taken spurred by our inquiry.

At the meeting when we shared our definitions, the group engaged in spirited dialogues about each of them. In an audio-recorded session, we discussed points of connection and points of divergence among the definitions, and we were struck by the various ways group members interpreted the task to define social justice. Molly provided a strict textbook definition of social justice, explaining it as "the idea that society gives individuals and groups equal treatment, access, and share of benefits". Kristen, on the other hand, defined social justice by examining her own personal philosophy and her life narrative. She wrote that "social justice is about knowledge and action, empathy and support, and vision and effort. It is about people working together to create a better world, both socially and economically, for all who live in it." Marshall and Jane took more worldly views of the construct.

Marshall defined social justice as "a belief system, a process, and a goal that should drive education at all levels" and explained a social justice agenda as one that "challenges the inequalities that exist in our world today." Jane wrote that "a just society in which everyone enjoys equitable opportunities including being able to develop while being respected, honored, and having dignity." Finally, Aida approached the assignment by asking her graduate students for their understandings of the term, ultimately defining social justice as "both a theoretical and experiential construct....which interrelates issues of inequality, lack of learning, and poor academic achievement."

92 Volume 5 ● 2010

Ironically—given our concern about our students parroting definitions—when we began to examine our own definitions, we were struck by their 'bookish' nature; in fact, several of us drew on outside sources to write our definitions. Kristen confessed that her definition was largely shaped by an online dictionary, and Marshall constructed his definition after reading relevant literature. Despite the personal nature of the task—to explain what social justice meant to us as individuals—several of us wrote very impersonal definitions. This sharing was important for our work, as it helped us realize that in order to effectively teach with social justice at the core of our programs, we needed to grapple with the construct, making it tangible to ourselves, before we could expect our students to do the same.

Like Cochran-Smith et al. (1999), we found common themes across our beliefs, including equity, access, empowerment, and respect. As the discussion turned back to our students, we argued that social justice involved "perspective

transformation" of approaching others with humility and understanding, recognizing our own prejudices, taking ownership of bias, and seeing equity through a lens of diversity. Through our dialogue, as we searched for convergences and divergences across our

We found common themes across our beliefs, including equity, access, empowerment, and respect.

individual definitions, we did not reach a consensus of what social justice is or how to actualize social justice. We realized, however, that our individual *concepts* of social justice influenced the differing *processes* by which we attempted to meet our goals of teaching for social justice (Grant & Agosto, 2008).

Though we decided after that meeting that our study group should turn its focus to our pedagogy, our work in defining social justice and developing our individual philosophies was by no means complete. In subsequent weeks, we read the draft of a portion of the *Handbook on Teacher Education* (3rd ed.) entitled "Teacher Capacity and Social Justice in Teacher Education" (Grant & Agosto, 2008) which gave us much insight into the issues we had grappled with during our conversations and served as the primary lens for the data analysis of our study group artifacts. We returned to our individual and collective definitions of social justice time and again over the three-year period and witnessed an evolution of our understanding of the term.

Reassessing Old and Designing New Curricula

At the final meeting of the first year of our collaboration, we again shared syllabi, assignments, and student work that highlighted issues of social justice in our teaching. Transcriptions of our audio-recorded session allowed us to examine what, if any, change had occurred in our teaching during the first year of our professional development efforts. We found that although our teaching, including reading and writing assignments, had changed little (most of us were teaching different courses in the spring than we had in the fall, making a comparison difficult), we all were aware that our understanding of, comfort with, and commitment to social justice had grown significantly in this short time. We also realized our students' work did not evidence any deep consideration of these issues

During that final spring meeting, Marshall, who had been reading graduation portfolios through the lens developed by his participation in the study group, shared the following reflection he had as he examined student work.

One thing that I have become aware of in our programs is that I don't think that we necessarily do enough about the school-community connection, and how do you utilize the community resources. I've noticed [that my students] can all show that

they've met the standards, but they are not doing it showing documents from [university] coursework. They are doing it [based on their experiences in the K-12 schools where they are student teaching], which is fine, but they don't have [our University] coursework.

Marshall's comment highlights an epiphany that many of us had during our conversation: if we wanted students to truly embrace teaching for social justice, we had to be more overt in our university-based courses.

In response to these conversations, five of the six group members developed and led a summer institute called *With Literature and Justice for All*. The institute was a two-week, intensive course with speakers from around the country sharing with our master's and doctoral students research and practice related to the integration of literacy development, literature study, and social justice. As *we* had during the previous two semesters, *our students* grappled with the meaning of "teaching for social justice." They created action plans for taking a social justice stance in their own classrooms and formulated the processes by which to do so. This event served as a capstone for our year as higher educators exploring social justice together and set us on the path of pedagogical transformation.

Though we realized success in pedagogical change via our inquiry group, the dialogic space served also as a place of resistance. During our sharing session, Molly expressed frustration with her inability to bring an assignment or student work to the table. The core course she was assigned to teach included required assignments, called "gateways." She reflected on this course with the group:

My class is all gateways, so I'm pretty constrained. And the gateway assignments are to create a thematic unit of instruction, a four-week unit about a social studies topic, or a science topic, or a chapter book or some major theme, and integrate literacy into that theme for the four weeks. And the second assignment is to teach and carry out some of that unit and reflect on the experience of planning it out and teaching it. So within those gateway assignments I have very little wiggle room as to what I can expect from them just because of the nature of the gateway. I think that there are social justice issues that are implied in both of the assignments as well as in my class. Certainly not anything as kind of deep or explicit and meaningful in some of the work that you guys have shared. They are expected to- Their unit is expected to reach all students and have specific instruction for the diverse needs of their learners, and they are expected to show evidence of that in their planning and how they went about differentiating their instruction to meet everyone's needs.... I have felt frustrated with gateways in general, and how gateways are evaluated.

The group could visibly see Molly's frustration about being unable to share work that she considered "meaningful" during our discussion. Initially, group members focused on responses that would help Molly uncover the "social justice issues that are implied" in her course, but Kristen turned the conversation, pushing Molly to rethink her approach to gateway assignments.

Kristen: I guess I'm just wondering, I mean the gateway assignments, at least the ones that I've been given, they are assignments, but the angle that you take on the assignments could vary. It has to be literacy across the content area, but could you require that they take a social justice slant on that?

Molly: I think I could, but I think that these gateways are a little more scripted.

Kristen: Oh, okay.

Molly: And again, when I came I took [a colleague's] work and [my colleague] and I would probably approach the class in very different ways, and it's a challenge to take somebody else's syllabus and make it yours when you are very unfamiliar with the larger framework of the university. So that was my struggle with it the first semester.

Kristen: There's still a tension. I think we are all sitting here and seeing the tension in you.

Molly's experience reflected the tensions many of us felt as we explored issues of social justice; the inquiry group offered us a safe and collegial space to grapple with them.

Year Two: Being More Overt

Year two was somewhat different from the first. With two of the six members departing on leave for the fall 2007 semester, the group did not tape-record another formal meeting until spring 2008, though we continued discussions and collaborations via email, through informal conversations, and via our scheduled monthly meetings. Whereas social justice as goal and stance had been our focus during that first year, we spent year two working out individually how we could implement the processes of teacher education for social justice (Grant & Agosto, 2008).

We came together in formal group meetings during the spring of year two to share our individual progress. Once again, we tape-recorded these discussions. We also prepared written reflections, focusing on how our notions of social justice had expanded through our conversations and other activities that had occurred over the previous year and a half; we focused, too, on how this inquiry process and collaborative work impacted our teaching, research, and professional development. Across these recordings and writings, it was evident that the conversations raised members' awareness of connecting social justice to their teaching, research, reading, and personal lives.

Nearly all members noted that they scrutinized and evaluated their course content, assignments, and readings because of their participation in the collaborative group. Kristen explained, "My text selection is currently influenced by our work in this research group, and the assignments I make are also subject to scrutiny. My classroom talk is more conscious." Marshall noted that notions of social justice "were emerging as one of the underlying themes of my teaching." Inspired by Kristen's Linguistics Dimensions Study (see Appendix B), Jane began designing assignments for her classes that required students to analyze dimensions of their students' communities in terms of strengths and challenges (see Appendix D). She had not had those assignments in the courses previously.

Aida's reflection summarized for us the path we had each taken as we evaluated student work and explored notions of social justice in our teaching:

Last year, as part of this research group I offered an initial definition of social justice based on a group of candidates' comments about this topic. This survey that I did with students made me aware of the need to examine this issue more in depth in the courses that I teach. I guess that I was just assuming that because of the content of my courses, this issue of social justice was a given.

Overcoming this assumption- that our students would understand and actualize social justice because we believed it was important- was an important result of our collaboration. We could no longer allow social justice to lie in the background of our

teaching; we had to be more overt. The literacy institute that focused on social justice marked our first step. Our ongoing informal and formal conversations provided the support each of us needed to continue our growth. A year after she articulated her struggle with attending to issues of social justice in a course that required particular assessments of her students, Molly wrote and then shared the following with the group:

In my Literacy Across the Curriculum courses, I've included more readings and discussions about culturally responsive teaching. Furthermore, because of these conversations, I've added a new element into the theme unit assignment. I now require students, in their reflective papers, to provide evidence for how they prove themselves to be culturally responsive teachers. Furthermore, social justice issues permeate my doctoral class in which we study applied linguistics and issues of power and culture that are inherent in language. This discussion is supported with readings by Purcell-Gates and Shirley Brice-Heath. This is the beginning of what [Brice-Heath] would prove to be a "fruitful personal transformation."

For Molly, prior to joining the group, "social justice was a buzzword, a platitude or an idea without significant substance." When she asked her students, she found that she was not alone. She said, "At the start of the summer institute, many of my students were unable to provide a definition for social justice. In the course of those two weeks, this dramatically changed with all students having something to say about social justice and how it pertains to their lives and to their teaching." This transformation—of Molly's teaching and of her students' understanding—mirrored the experience of many group members. After two years of conversation, reading, and writing, our group members were now much more overt in their teaching for social justice.

Year Three: Understanding Our Progress and Continuing Onward

In the third year, membership shifted as we invited new faculty to join us and others chose not to attend. During year three, we continued the faculty book club approach, reading common texts as a group and sharing other readings we had completed individually or in pairs. A few people read chapters from *Diversity and the New Teacher: Learning from Experience in Urban Schools* (Cornbleth, 2008). Others read selected chapters from *White Teachers, Diverse Classrooms* (Landsman & Lewis, 2006) and the Grant and Agosto (2008) article. Finally, a couple of

members (including a new group member) read excerpts of various works of Michael Foucault.

Our work also continued through informal conversations about what was happening in our classes. We regularly sent articles to each other and dialogued about them via email or at department meetings. The conversations we had were a combination

We recognized that our professional development efforts were recursive rather than linear in nature and that our recursive process had affected us as researchers and teachers.

of theory building and practical questions. The study group had evolved from formal monthly meetings to a support network that transcended the walls of our individual offices.

Our readings became common reference points during our conversations and also helped us begin a collaborative writing effort. We began to look critically at the artifacts we had collected during the previous two years. Reading transcripts of our conversations through Grant and Agosto's (2008) lens of social justice as a goal,

process and stance, for example, we were able to examine the path our group took and to reflect on its impact on the individual members.

We recognized that our professional development efforts were recursive rather than linear in nature and that our recursive process had affected us as researchers and teachers. The multifaceted approach to self-directed professional development (Diaz-Maggioli, 2004) served us well. Our efforts fell into four areas: the discussions of shared readings; conversations about our individual experiences as higher educators and researchers; sharing and discussion of individual reflective writing pieces related to social justice; and collaboration on scholarly writing endeavors.

The Impact of Our Self-Study Group

In the dialogic space (Nystrand, 1982) that emerged during our data analysis discussions, we became increasingly cognizant of the impact of our discussions. We began to notice three results of our work together: (1) an expansion and deepening of our understandings of social justice, (2) a critical analysis of our own teaching that resulted in more overt teaching for social justice, and (3) a developing collaborative problem-solving community. We discuss each of these impacts in further detail below.

Expanding Our Understandings of Social Justice

By developing a learning community where we shared ideas, discussed and questioned perspectives, and circulated knowledge, each of us expanded our understandings of social justice. There were significant shifts in the ways that we individually conceptualized social justice: from vague, "bookish" jargon to language that represented a developing understanding of social justice as praxis. For example, discussions about the differences between *multiculturalism* and *social justice* helped each of us to make our language use more explicit. As a group we determined that social justice involved more than just a cerebral understanding of inequality and injustice. Each group member achieved some level of transformation by developing the language, knowledge, and understandings associated with social justice. Most importantly, we were able to transfer our understanding of social justice into expectations that our students would demonstrate social justice as a *goal*, a *process*, and a *stance* (Grant & Agosto, 2008).

Analyzing Our Own Teaching

The experiences of participating in discussions on social justice prompted members to rethink their teacher preparation coursework. Over the first two years of conversations, we examined student work; we revisited the assignments and readings that were integral parts of our coursework; we made the decision to teach more overtly for social justice.

The first step we took in our goal to be more overt in our teaching came in the form of a group project. Members of our inquiry team conceptualized, designed, and implemented a two-week summer institute that focused on social justice. During that institute, we were able to assess specifically students' understanding of the construct. We affirmed that focusing overtly on issues of social justice is necessary for students to grapple with them and to incorporate teaching for social justice into their practice.

To this end, group members altered syllabi, adding texts on educational equity, culturally responsive teaching, and critical pedagogy; specifically, writings by Sonia Nieto, Paolo Freire, Shirley Brice-Heath, and James Banks were added to

required course readings. We each also revisited and modified course assignments. For example, in the first year of meetings, Molly expressed concern that a required course assignment in which students create a literacy-rich thematic unit did not integrate elements of social justice. Through conversations, she re-envisioned the assignment and added a component in which students reflect on their actions and instructional choices as culturally relevant teachers.

Creating a Problem-Solving Community

As the group developed, we began regularly engaging in problem solving, and this reflection and collaboration continues to be a priority. We believe that we accomplished much of our growth through collaborative problem solving and critical reflection as a community of learners. Aida, for example, shared a story about a student who challenged her notions of critical literacy, and in discussing her response to the student with the group, she felt validated in her actions. The scheduled meetings of the research group provided a regular opportunity for us to discuss these types of problems and to reflect on our teaching, and they opened the door to significant informal conversations. For example, Kristen rushed to Jane's classroom after dialoguing with a student who was dealing with racial tensions in his school and who had asked her to offer advice to him and his colleagues to fix the problem. Worried about her response to the student, Kristen relayed the conversation to Jane, who not only reassured her but also agreed to speak to the student herself.

We regularly found ourselves informally reaching out to other members of the group in order to reflect on issues related to our teaching, interactions with students, and even situations with other colleagues. This aspect of the learning community has been an essential vehicle by which we arrived at increased theoretical and pedagogical understandings. In striving to understand issues of social justice together, we uncovered a valuable resource in the group as a whole. As a result, we are no longer individual faculty members who work in isolation; we are part of a community of learners "who are differently positioned from one another and who bring different kinds of knowledge and experience to bear on the collective enterprise" (Cochran-Smith et. al, 1999, p. 233).

Where We Plan to Go From Here

Though our collaborative efforts have resulted in deepened understandings of social justice and its impact on our professional lives, our work in teaching for social justice has only begun. Theoretical understanding and pedagogical change are certainly two desirable outcomes of any professional development endeavor of educators. We have become more overt, but we need to assess the effect our transformation is having. We want to know whether our students are parroting our own beliefs or whether they will work to achieve social justice as a goal, process, and stance with their own students. Will they become the agents of change that we hope they will be? This question remains for our inquiry group to tackle.

Cochran-Smith (2004) explains that working for social justice in education means guiding students in critical inquiry of the dynamics of oppression and privilege and challenging preexisting hierarchies. Specifically, we want to examine students' work in our courses and in their field experiences to evaluate the impact of our practices. Ultimately, we want to uncover how our actions impact the lives of students in elementary and secondary schools where *our* students teach. In addition, having experienced the benefits of collaboration, we want to encourage our students to work collaboratively, to develop professional communities where they can learn from each other as we have.

98 Volume 5 ● 2010

Three of the members of the group work together in the adolescence education program. As we continue to move forward we will use our findings from this group to shape the redesign of our initial teacher education program—everything from assessments to field experiences to the literature our students read.

Finally, we hope to open up our conversations to additional members both within the school of education and the larger university. Several new members have joined us at various points in the last three years; our objectives are to continue to invite and welcome new colleagues into our conversations in more comprehensive ways. It is our belief that new participants will enter into a mutually beneficial endeavor; they will likely benefit from undergoing the transformations we have explained throughout this article and we will certainly benefit from new perspectives. We are particularly interested in having group membership become even more heterogeneous in order to have meaningful conversations about the connections between race, ethnicity, gender, language, religion, and sexual orientation and social justice.

Advice to Those Interested in Following Similar Directions

As we have come to understand the benefits of our work together, we encourage our higher education colleagues to explore similar projects. We believe that our model is replicable and offer the following suggestions for interested parties. We formed our group on a voluntary basis and allowed our own interests to determine the agenda and direction. All division faculty members were invited to attend, regardless of experience, rank, or specialization; as a result, our group comprised both junior and tenured faculty, novices and veterans, and a wide range of teaching and research expertise. This diverse membership was advantageous in our learning; however, it is essential to create a safe environment which encourages multiple perspectives and honors and respects diverse experiences and viewpoints.

We found it helpful to have a group coordinator who was responsible for planning our meetings, facilitating conversations, and reminding us of our long-term goals. Though our group membership was relatively fluid, as members came and went for professional and personal reasons, it was also essential for us to maintain a core of members who were

It is essential to create a safe environment which encourages multiple perspectives and honors and respects diverse experiences and viewpoints.

consistent over the years. Our group members also committed to regular conversations; through our monthly meetings, we set reasonable goals for our learning and self-monitored our progress. We would also recommend a multifaceted approach of writing, reading, and conversing; it was the combination of all three processes that expanded our thinking and added to our knowledge bases.

To encourage similar cross-curricular collaborations, universities must embrace faculty efforts. We were fortunate that our work together was valued by our university administration; we were publically commended at faculty meetings by our division chair and our dean. Several members of the group came into the group thinking there would be a reward such as support in producing publications or progress in the processes of promotion, tenure, and merit. When the opportunities arose, we noted our participation in the group on applications for reappointment and merit. In addition, throughout the three years, we devoted time to giving feedback and advice to individuals working on research and writing. In the end, however, group members must value both the *process* of these collaborative experiences as well as the *product* of articles, chapters, and presentations that may emerge as a result of the process.

Concluding Thoughts

In sum, our efforts to create a self-directed professional development group of higher educators proved to be highly valuable for us. Not only did we expand our own knowledge and understandings of notions of social justice, but we began to take important steps towards increasing our social justice actions in our teaching. As Sensoy and DiAngelo (2009) explain, "just agreeing that social justice is important is not enough. Educators must practice social justice or else the concept is meaningless" (p. 345). Over a three-year period, we found meaning in the concept of social justice. Our conceptual understandings became practical agendas. Through this collaborative process, we grew as individuals who are committed to issues of equality, we grew as higher educators for social justice, and perhaps most importantly we grew as a community of teachers and learners.

References

Anagnostopolous, D., Smith, E.R.., & Nystrand, M. (2008). Creating dialogic spaces to support teachers' discussion practices: An introduction. *English Education*, *41*, 4-12.

Birchak, B., Connor, C., Crawford, K., Kahn, L., Kaser, S., Turner, S., & Short, K. (1998). *Teacher study groups: Building community through dialogue and reflection*. Urbana, IL: NCTE.

Brancato, V.C. (2003). Professional development in higher education. New Directions for Adult and Continuing Education, 98, 59-65.

Brookfield, S. D. (1987). *Developing critical thinkers*. San Francisco: Jossey-Bass.

Cazden, C. (2001). Classroom discourse: The language of teaching and learning. Portsmouth, NH: Heinemann.

Chandler-Olcott, K. (2002). Journey into the wilderness: A teacher-researcher group's retreat. In S. Intrator (Ed.), Stories of the courage to teach: Honoring the teacher's heart (pp. 218-229). San Francisco: Jossey-Bass.

Cochran-Smith, M., Albert, L., Dimattia, P., Freedman, S., Jackson, R., Mooney, J., Neisler, O., Peck, A. & Zollers, N. (1999). Seeking social justice: A teacher education faculty's self-study. *International Journal of Leadership in Education*, 2 (3), 229-253.

Cochran-Smith, M., & Lytle, S.L. (1999). Relationship of knowledge and practice: Teacher learning in communities. *Review of Research in Education*, 24, 249-305.

Cochran-Smith, M. & Lytle, S.L. (2001). Beyond certainty: Taking an inquiry stance on practice. In A. Lieberman & L. Miller (Eds.), Teachers caught in the action: Professional development that matters (pp. 45-60). New York: Teachers College Press.

Cochran-Smith, M. (2004). Walking the road: Race, diversity, and social justice in teacher education. New York: Teachers College Press.

Díaz-Maggioli, G. (2004). Teachercentered professional development. Alexandria, VA: Association for Supervision and Curriculum Development.

100 Volume 5 ● 2010

El-Haj (2004). Constructing ideas about equity from the standpoint of the particular: Exploring the work of one urban teacher network. *Teacher's College Record*, 105, 817-845.

Fecho, B. (2000). Developing critical mass: Teacher education and critical inquiry pedagogy. *Journal of Teacher Education*, *51*(3), 194-199.

Fecho, B., & Allen, J. (2002). Teachers researching communities of practice for social justice. *School Field*, XII (3/4), 119-141.

Gallavan, N. (2000). Multicultural education at the academy: Higher educators' challenges, conflicts, and coping skills. *Equity & Excellence in Education*, 33, 5-11.

George, M. (2004). Faculty-student book clubs create communities of readers in two urban middle schools. *Middle School Journal*, 35(3), 21-26.

Grant, C., & Agosto, V. (2008). Teacher capacity and social justice in teacher education. In M. Cochran-Smith, S. Feinman-Nemser, J. McIntyre, & K. Demers (Eds.), Handbook of research on teacher education: Enduring questions in changing contexts. Mahwah, N.J.: Lawrence Erlbaum Publishers.

Grossman, P., Wineburg, S., & Woolworth, S. (2001). Toward a theory of teacher community. *The Teachers College Record*, *103*, 942-1012.

Lewis, C., & Ketter, J. (2004). Learning as social interaction: Interdiscursivity in a teacher and researcher study group. In R. Rogers (Ed.), An introduction to critical discourse analysis in education (pp. 117-146). Mahwah, NJ: Lawrence Erlbaum Associates.

Little, J. W. (1990). Teachers as colleagues. In A. Lieberman (Ed.), Schools as collaborative cultures: Creating future now (pp. 165-193). Bristol, PA: The Falmer Press.

Lortie, D. (1975). Schoolteacher: A sociological study. Chicago: University of Chicago Press.

Lyons, C.A., & Pinnell, G.S. (2001). Systems for change in literacy education: A guide to professional development. Portsmouth, NH: Heinemann.

Mezirow, J. (Ed.). (2000). Learning as transformation: Critical perspectives on a theory in progress. San Francisco: Jossey-Bass.

Moon, J. (1999) Reflection in learning and professional development: Theory and practice. London: Kogan.

Nystrand, M. (1982). The structure of textual space. In M. Nystrand (Ed.), What writers know: The language, process, and structure of written discourse (pp. 75–86). New York: Academic Press.

Pratt, D. (1998). The research lens: A general model of teaching. In D. Pratt & Associates (Eds.), *Five perspectives on teaching in adult and higher education* (pp. 3–14). Florida: Kreiger Publishing Company.

Richlin, L., & Essington, A. (2004). Overview of faculty learning communities. New Directions for Teaching & Learning, 97, 25-39.

Richlin, L., & Cox, M. D. (2004). Developing scholarly teaching and the scholarship of teaching and learning through faculty learning communities. *New Directions for Teaching & Learning*, *97*, 127-135.

Rogers, R., Kramer, M.A., Mosley, M., Fuller, C., Light, R., Nehart, M., et al. (2005). Professional development as social transformation: The literacy for social justice teacher research group. *Language Arts*, 82, 347-358.

Sandretto, S., Ballard, K., Burke, P., Kane, R., Lang, C., Schon, P., et al. (2007). Nailing jello to the wall: Articulating conceptualizations of social justice. *Teachers and Teaching: Theory and Practice*, 13(3), 309-324.

Schön, D. A. (1997). Educating the reflective practitioner: Toward a new design for teaching and learning in the professions. San Francisco, CA: Jossey-Bass.

Sensoy, O., & DiAngelo, R. (2009). Developing social justice literacy: An open letter to our faculty colleagues. *Phi Delta Kappan*, *90*(5), 345-353.

Smith, K. (2003). So, what about the professional development of higher educators. *European Journal of Teacher Education*, 26(2), 201-215.

West, W. (1996). Group learning in the workplace. *New Directions for Adult and Continuing Education*. 71,51-60.

Wlodkowski (1999). Enhancing adult motivation to learn: A comprehensive guide for teaching all adults. San Francisco: Jossey-Bass.

Molly Ness is an assistant professor in childhood education at Fordham University in New York City. Marshall George is an associate professor in English education at Fordham University. Kristen Turner is an assistant professor in English education at Fordham University. Jane Bolgatz is an associate professor in social studies education at Fordham University.

Appendix A

- A Sampling of the Readings We Completed Over Our Three-Year Effort
- Bolgatz, J. (2005). Revolutionary talk: Elementary teacher and students discuss race in a social studies class. *The Social Studies*, *96*(6), 259-264.
- Bolgatz, J. (2005). Talking race in the classroom. New York: Teachers College Press.
- Cazden, C. (2001). Classroom discourse: The language of teaching and learning.

 Portsmouth, NH: Heinemann.
- Cornbleth, C. (2008). *Diversity and the new teacher: Learning From experience in urban schools.* New York: Teachers College Press.
- Christensen, L. (2001). Reading, writing, and rising up: Teaching about social justice and the power of the written word. Milwaukee, WI: Rethinking Schools.
- Fine, M., Weis, L., Powell, L. & Wong, M. (1997). *Off white: Readings on race, power, and society.* New York: Routledge.
- Grant, C., & Cooper, J. (2002). An educator's guide to diversity in the classroom. Boston: Houghton Mifflin.
- Grant, C., & Agosto, V. (2008). Teacher capacity and social justice in teacher education. In M. Cochran-Smith, S. Feinman-Nemser, J. McIntyre, & K. Demers (Eds.), *Handbook of research on teacher education: Enduring questions in changing contexts*. Mahwah, N.J.: Lawrence Erlbaum Publishers.
- Greene, S. & Abt-Perkins, D. (2003). *Making race visible: Literacy research for cultural understanding.* New York: Teachers College Press.
- Heffernan, L. (2004). *Critical literacy and the writer's workshop: Bringing purpose and passion to student writing.* Newark, DE: International Reading Association.
- Ladson-Billings, G. (2001). Crossing over to Canaan: The journey of new teachers in diverse classrooms. New York: Jossey-Bass.
- Landsman, J., & Lewis, C. (2006). White teachers / diverse classrooms: A guide to building inclusive schools, promoting high expectations, and eliminating racism. Sterling, VA: Stylus.
- Lewis, C. (2000). Limits of identification: The personal, pleasurable, and critical in reader response. *Journal of Literacy Research*, *32*(2), 253-266.
- Lewis, C. (2006). *Reframing sociocultural research on literacy: Identity, agency, and power*. London: Lawrence Erlbaum Associates.
- Nieto, S. (2004). Affirming diversity: The sociopolitical context of multicultural education. New York: Longman.
- Nieto, S. (2002). Profoundly multicultural questions. *Educational Leadership*, 60(4), 6-10.
- Sensoy, O. & DiAngelo, R. (2009). Developing social justice literacy: An open letter to our faculty colleagues. *Phi Delta Kappan, 90*(5), 345-353.
- Vasquez, V. (2003). Getting beyond 'I like the book': Creating space for critical literacy in K-6 Classrooms. Newark, DE: International Reading Association.

Appendix B

Linguistic Dimensions Study

There is much more to language and literacy than reading the great works and writing a good essay. However, these skills are often what is valued in school. In this project, you will explore the ways that students use linguistics, language, and literacies in and out of school. You will work to find ways to bridge the gap between the "local literacies" of the students' home community and the academic literacies valued in school. This study will require traditional methods of research (library, journals, etc.) and methods of "teacher-research" that we will discuss in class.

Phase 1: Community Selection

Select a community that represents the student population within your school or within a school where you would like to teach. You may choose to select two or three focal students from your classes to serve as case studies for this community. Write a one-paragraph description of the community (the primary discourse) and of the students who represent that community. List your potential data sources for uncovering information about the students' use of language, linguistics, and literacies in and out of school. Post this information on your personal wiki page.

Phase 2: Data Collection

Collect data on the uses of literacy within the selected community. Examine linguistic practices (including how words sound and what they mean) and social

practices. Potential sources of inquiry include:

| es. 1 oterical sources of inquity include: | | | | |
|--|-------------------------|-------------------------------|--|--|
| | Overheard conversations | Running records of your | | |
| | (perhaps recorded) | observations (what | | |
| | | you hear and what you see) | | |
| | Writing | Student interviews (and other | | |
| | | interviews) | | |
| | Other artifacts | Library/Internet research | | |
| | Photos | Radio/TV/Media | | |

Bring the data you have collected to class so that you can begin to analyze what you have found. Post a list of the sources of your data on your wiki page.

Phase 3: Analysis and Findings

In class you will share your data with your analysis team, which will help you to begin to:

- Categorize the local literacies
- Examine the diversity and ways of meaning in the community
- Articulate the home literacies of the students

Continue this analysis after this class session and identify three to four key findings. You should document the finding and provide supporting evidence from the data you have collected. Post these findings to your personal wiki page.

Phase 4: Turn to Teaching

Consider the language and literacy practices of the community you have studied, and think about how this knowledge could influence your practice as a teacher of students from this community. What theories and strategies would support the academic success of the students? Reference course texts and other sources you consult as you make a plan for teaching members of this community. Use teacher-research skills to connect your work with the ideas of researchers and theorists we have studied. The report should be in APA format.

Appendix C

Social Studies Curriculum: Cultural/Political Event

For this assignment you will go to a political or cultural event that is not something you would ordinarily attend. This might be a religious service, a political meeting, an MTA open meeting about transit changes, a Young Republicans meeting, a cultural celebration. The idea is that you are getting out and learning something NEW in an active, participatory way. Choose an event that you would **not** go to otherwise. Take a leap or risk of some sort (i.e. see a group you suspect you will disagree with; an event in a neighborhood where you do not normally feel comfortable exploring, etc.).

BE SURE TO GET NECESSARY INVITATIONS AND DRESS APPROPRIATELY.

You will then write a response answering the following questions in as creative a way as you like (1 page):

What did you see and do? What did you learn from the event? How does this relate to social studies? How does this relate to the readings and conversations in our class? Reference NCSS or NYState standards. If students went to this event, what would they learn? What questions would this spark? What would students need to know to best appreciate the event?

Appendix D

Assignments Jane added to her curriculum course

2008: Map of school

Using the questions generated in the first class, you will create a map of your school and surrounding neighborhood noting significant cultural, economic, social, and political places.

2009: Community Analysis Sheet

| | Description/ Explanation | How this resource/issue might be used |
|---|--|---|
| An excellent teacher in your school | What makes this teacher effective? Be specific. If possible, relate to criteria described in Ladson-Billings* or other theory. | Can you shadow this teacher? Meet with him/her to plan or talk about teaching? Interview students to see why they think he/she is effective? Team-teach with the teacher? |
| A community-based organization housed in or associated with your school | How does this organization work with students? In what ways is it utilized? What makes it effective? | How might you partner with this organization? What can you learn from this organization? Could it be improved in some way? |
| A resource in the local community, such as a community center, mosque, church, or synagogue | How does this organization work with students? In what ways is it utilized? What makes it effective? | How might you partner with this organization? What can you learn from this organization? Could it be improved in some way? |
| A compelling social, economic or political issue in the local community such as high asthma rates, high unemployment | What are the history and politics of this issue? How does it affect the people in the community? | How might some of the issues students are learning about in your class be related to this issue? In what ways are the political/social/economic questions or aspects of the issue similar to what students are learning about in history? How might you craft an essential question that would relate to both this issue and the other content of your class? |

^{*}Ladson-Billings, G. (2006). "Yes, but how do we do it?" Practicing culturally relevant pedagogy. White teachers/diverse classrooms: A guide to building inclusive schools, promoting high expectations, and eliminating racism. J. Landsman and C. Lewis (Eds.). Sterling, VA, Stylus.

"Hey, I Can Do This!" The Benefits of Conducting Undergraduate Psychology Research for Young Adult Development

H. Russell Searight, PhD Associate Professor, Department of Psychology Lake Superior State University

> Susan Ratwik, PhD Professor, Department of Psychology Lake Superior State University

> > Todd Smith, PhD Assistant Professor, St. Catharine College

Many undergraduate programs require students to complete an independent research project in their major field prior to graduation. These projects are typically described as opportunities for integration of coursework and a direct application of the methods of inquiry specific to a particular discipline. Evaluations of curricular projects have usually found that they positively impact students' knowledge and skills in that discipline. However, little attention has been devoted to the impact that these projects have on broader aspects of psychosocial development. The current study describes the results of a focus group conducted with students who had recently completed their senior research project in psychology. Results of the focus group interview were transcribed and coded according to grounded theory principles. Five developmentally-specific categories emerged from the analysis. These included a greater sense of competence attributed to completing a large-scale project, an experience of being in a professional role relative to research participants as well as to the audience presented with their study results, and a sense of ownership and pride in completing their project. Universities that either require or are contemplating requiring senior projects should consider these broader benefits to young adult development.

A decade ago, the Boyer Commission Report emphasized the role of research-based learning for undergraduate education—a theme echoed by the National Science Foundation (Boyer Commission on the Education of Undergraduates in the Research University, 1998; National Science Foundation, 2003). Since that time, multiple models of undergraduate research have been described, ranging from assistance with faculty research to completely independent student-driven inquiry.

Based upon longitudinal observation of college students followed until age 30, Baxter-Magoda (2001) described a four-stage process of epistemological reflection that is helpful for appreciating the developmental impact of the undergraduate research experience. In this model, students move from a view of knowledge as the province of "experts" to one in which they come to appreciate that academic "truth" may, at times, be relative. This recognition is followed by an appreciation that most information is subject to revision through self-directed critical analysis. Finally, adults recognize the role of context when evaluating new knowledge, a stage that few young adults achieve by college graduation (Baxter-Magoda, 2001; Hunter, Laursen, & Seymour, 2006).

By participating in the generation of new knowledge, supervised research socializes students into their discipline (Hunter, Laursen, & Seymour, 2006). Ideally,

106 Volume 5 ● 2010

the mentor is skilled in balancing the degree of didactic instruction (usually required early in the student's research career) with learner-centered initiative and responsibility. Additionally, the mentor recognizes that for emerging adults, conducting an independent research project is likely to impact identity and cognitive development, while for older non-traditional students there may be greater impact on socialization as a pre-professional into a "community of practice" (Holley & Taylor, 2009; Wenger, 1998).

While some type of undergraduate research activity occurs in many psychology departments, curricular models vary considerably by institution. The recently published quality benchmarks guidelines for undergraduate psychology education provide a competency-based framework for research and scholarship (Dunn, McCarthy, Baker, Halonen, & Hill, 2007). In teaching and supervising research, relevant competencies include applying knowledge from previous coursework such as research design, statistics and psychometrics, generating operational definitions of theoretical constructs from subfields within psychology (e.g., perception, cognition, learning, and personality), as well as ethical issues surrounding protection of human participants. These curricular components are also helpful in developing measurable outcomes increasingly required by bodies accrediting undergraduate programs.

Along with retention and graduation data, the success with which a student is able to apply didactic knowledge provides another method by which to assess a program's effectiveness. For example, in our program, students develop a research portfolio consisting of a log of research activity throughout their senior year, the

Institutional Review Board application for conducting the project, a literature review, the final report of the project, and an accompanying poster. Products of this type complement traditional quantitative outcomes with rich descriptions of educational outcomes. Figure 1 outlines the specific components of Lake Superior State University's psychology research experience. Our program's belief in

Along with retention and graduation data, the success with which a student is able to apply didactic knowledge provides another method by which to assess a program's effectiveness.

the importance of personal development and the value of the senior project extends back over 40 years to the beginning of the LSSU's undergraduate psychology program and the university's establishment as four-year institution. The importance of personal development in psychology majors at LSSU was previously addressed in 1993, in the psychology program's self-study (Gibson, Malmberg, Ratwik, Sawyer, Trouvé, & Voight, 1993). At that time, the psychology program adopted the undergraduate psychology goals established by McGovern, Furomoto, Halpern, Kimble, and McKeachie (1991), including interpersonal skills (expanded selfknowledge, the ability to monitor one's own behavior, sensitivity to individual differences, and an ability to work effectively in groups), and suggested that these skills could "complement the cognitive achievements of the traditional course of study in psychology" (McGovern et al., p. 602). The LSSU psychology program proposed that the "psychology [program] promotes student efficacy through success in demanding course activities, personal self study, and learning experiences designed to challenge student assumptions" (p. 23). The program's focus on personal development was consistent with the University's Mission Statement at that time, which included "providing opportunities for emotional and social maturation as well as intellectual growth, with a commitment to fostering the development of students as "fulfilled, caring individuals" (Gibson et al.., 1993).

The 1993 self-study broadly assessed the personal development of psychology majors and to some extent evaluated the effect of the senior research experience on personal development with a variety of assessment approaches. In a

survey sent to alumni from 1969-1992, with a response rate of 25% (N = 58), students cited the senior research experience as one of their most memorable experiences. In addition, 88% reported that the psychology program helped them with interpersonal skills, 87% described tolerance for others as improved, and 90% "gained a success/achievement-oriented perspective toward life in general" (p. 44).

Most previous investigations of undergraduate research have focused on pedagogical issues and discipline-specific knowledge and skills (Seymour, Hunter,

Laursen, & DeAntonini, 2004). While limited, some attention has been given to broader cognitive-developmental goals such as demonstrating self-regulation in setting and achieving goals as well as metacogntive skills such as evaluating the quality of one's own reasoning (Baxter Magolda, 2004). However, these personal and professional developmental objectives still are primarily cognitive in nature

The current investigation highlights the impact of conducting research for the students' personal, epistemological, and professional development.

objectives still are primarily cognitive in nature. While there are suggestions that students completing undergraduate research projects may value personal developmental outcomes over cognitive skills (Hunter, Laursen, & Seymour, 2006), these psychosocial outcomes have received relatively little attention.

The current investigation highlights the impact of conducting research for the students' personal, epistemological, and professional development. Since the impact of conducting research on these dimensions has not been well-studied and because the topic focused on subjective experiences, qualitative methods were employed (Searight & Young, 1994). Specifically, a focus group was conducted with participants who had recently completed their senior psychology research projects.

Methods

Participants

A focus group was conducted that was comprised of 15 students (4 males and 11 females) who had recently completed their psychology senior research project. The modal age was approximately 22 years old, with one student in his late twenties and another in his early forties. The group was facilitated by the first author who had not been involved with supervising any of the students. The session was tape-recorded and later transcribed. Before signing a consent form, participants were assured of confidentiality and it was explained that while direct quotations would be part of the written report; no one would be identified, either by name or by other characteristics.

Interview

Qualitative studies of this type typically employ an interview method that begins with broad, open-ended queries. The interviewer, as noted above, did not supervise any of the projects. As is often recommended by qualitative research methodologists (Glaser & Strauss, 1967; Strauss & Corbin, 1990), previously published studies on the topic were not read prior to conducting the group. This restriction is designed to prevent the investigator from being influenced by pre-existing information in the area.

While there were some general guidelines for interview topics, the session began with open-ended questions (e.g., "Tell me about your experience with senior research?") (McCracken, 1988). These "grand tour" questions are followed up with specific probes or "mini tour" queries (e.g., "Running subjects sounds important. Could you say more about that? ") to clarify categories and their respective

boundaries. Later queries also include contrast questions (e.g., "How did this experience compare with other large academic projects that you have done?") (McCracken, 1988; Spradley, 1979).

Data Analysis

Data was in the form of interview transcripts. Grounded theory principles were used as a framework to analyze the data and organize the information around themes that inductively emerge (Strauss & Corbin, 1990). Through this coding process, between five and eight themes or categories typically emerge.

The overall goal of this type of analysis is to obtain a description of participants' subjective experience and meaning regarding the topic of study (Hammersley & Atkinson, 1983). Results are typically presented in the form of descriptive themes. Direct quotations from the interview narratives are frequently employed to illustrate the themes.

Results

As noted above, some students shared significant feedback regarding the content of the program. Much of this was idiosyncratic to the institution and the department. Because it was believed to be more meaningful and generalizable to other institutions, this analysis will focus primarily on categories centering on broader developmental themes. Each domain is labeled and has an accompanying story line. A description of that domain or theme is followed by (a) representative quotation(s) to illustrate the domain.

Domain One: The Experience of Completing a Large-scale Independent Project ("You gotta make it work")

Nearly all the students indicated that they had never taken on or completed a long-range project of this type. As they had recently completed their research, the students were able to look back to the product with some sense of achievement. This exchange, between an older student and several participants of "traditional "college age, illustrates this experience:

S(1): "...if you never held a real job or did anything like a big task. For a lot of people it could be the first time they did. I think that alone is worth it," S(2) "you have to be responsible..." S(3): "You schedule time..." S(4): "You gotta make it work."

S (1)..." don't get discouraged, like halfway through, you get so frustrated."

Domain Two: Appreciating the Research Process ("...you have to respect the process because man, this is work!")

The ability to see firsthand how the research that they had been reading for most of their college career was actually conducted yielded unique insights. They gained a much deeper, experiential appreciation of how empirical psychological knowledge is generated. Conducting research was a valuable complement to classes and reading.

- S (5):"I think that it's worthwhile....just so you can see how it all comes together...you read some crap article, what was that guy's problem? ...and you're still like that's a lot of work!"
- S (6): "Yeah, well he **did** the experiment..." S (5): Even though it didn't come out, he spent a lot of time on it...you kind of have to respect the whole process."

Domain Three: Interpersonal Confidence and Competence ("I learned how to talk to people- like some professor you never met.")

A number of students reported that being placed in a professional role requiring them to interact with peers, faculty from other universities, and their own study participants, was extremely valuable. Several of the focus group members indicated that this was the first time that they had felt like they were in a role of this type. Many students indicated that presenting their findings at an undergraduate research conference was a unique, confidence-building experience:

S(8): "...just meeting with subjects, interacting with a lot of people {at the research conference} I did what I had to do but then...all right, I should mingle around..." S(3) "...and talk to some professor you never met!" [Laughter]

There was a strong consensus that directly obtaining their data from their own participants was very important and a key benefit from conducting the project. Participants were nearly unanimous in indicating that they were not particularly interested in conducting analyses of archival data. This excerpt is from an exchange about students' reaction to using archival data:

S (7): "I personally like running subjects... S (8): Yeah...S (9): "I think if we just took the data we wouldn't get as good an experience...like the full experience."

Domain Four: The Importance of Independence ("I think it's important to start from...it's your idea. It should be your project—always")

Participants repeatedly stressed their individual ownership of their project. By owning the project, participants found a sense of freedom and scholarly independence that was new to their college experience. This ownership and accompanying responsibility for the project could also be anxiety-provoking:

S(10): "It's finally something unique to the person because you can pick any topic, anything that interests you....like a lot of the psych courses, its all laid out for you, this is want you gotta do, this is the reading you do...boom, boom, boom...then you get here, ok, what do you want to do..." S(10): "Yeah, you actually get that freedom because it's more in your area of interest...that was one of the most enjoyable things about it...that's kind of cool rather than 'yawn'; it's definitely good to have this freedom."

Through their participation in the undergraduate research conference, students encountered different models of research—frequently, they interacted with faculty-led student teams focusing on that faculty member's research. The participants did not see this common practice of working in teams on faculty research to be particularly attractive. It was seen as eliminating the freedom to pursue their own unique interests and as leading to a product that they would view with little personal investment.

S (11): "One thing I did when I went to this conference...I was glad I did it independently...there were people [other student-presenters]...who did it as fours, twos and threes...if I had been in a group, you just rely on others' strengths....S (3)...and you had more freedom doing it independently, you didn't have to agree on something."

Domain Five: Leaving and Owning a Legacy ("None of our stuff is copyrighted so people can technically use it without our permission. That sucks!")

Students were possessive of their completed projects. A common concern was that their data would be given to successive years of senior students for their own projects. This possibility was greeted with resentment that next year's seniors would not have to work as hard nor as independently as the current group members:

S (11): "I got a question...[the psychology department] is getting all our CDs. Five years down the road ...somebody wants to use [my] project...I'm the one who really started it...I have the program !" S (13): "That's another thing. Are they gonna let people use our material? S (4): I think they should have to e-mail us..."

This exchange escalated with increased concern that the product of the current students' research would be given away freely to students who followed:

S (12):" Yeah, they should e-mail and I should charge them...because there's no way...I put in eight days in the lab. S (14): "...our hard work they're taking advantage of...S (11): "Yeah!" "I don't think that's right ...give me that digital file back! [laughs]." S (14):"...Oh great, here's my project. Sweet, you know!" S (3): "Our hard work they're taking advantage of..."S (10): "Yeah, I don't think that's right"

Discussion

Senior research, while challenging, appears to be an important developmental milestone for emerging adult students. In addition to formal academic skills such as data analysis, writing a proposal, and presenting results, students viewed the project as particularly valuable for building a sense of

competence and for helping them feel that they were "professionals"—a role that they will likely fill after leaving the undergraduate institution.

The majority (87%) of our students were young adults in their early twenties. It is likely that for the small number of older, non-traditional students, the benefits were somewhat different. Anecdotally, there were suggestions that these non-traditional students were less concerned about self-confidence and identity-related issues. With these issues addressed, they were better able to appreciate the context in which psychological knowledge is generated—a stage

While many universities, particularly those with graduate programs, have undergraduates working in faculty laboratories, our participants were nearly unanimous in their view that a personally constructed and developed product was far more meaningful.

that Baxter-Magoda (2001) suggests is not attained until the post-college years.

The original intent of the current investigation was to obtain feedback on the research component of our undergraduate curriculum and was not specifically focused on developmental issues. It is likely that a richer description of students' undergraduate research experiences would be obtained with interviews specifically focused on psychosocial aspects guided by a developmental theory.

While many universities, particularly those with graduate programs, have undergraduates working in faculty laboratories, our participants were nearly unanimous in their view that a personally constructed and developed product was far more meaningful. Participants cited the personal investment that they had in a project that they had developed from the beginning and that reflected their own unique and distinctive interests. There was a very strong theme of the importance

of personal ownership of the research project. A number of participants, including the one whose comment served as the title for this paper, seemed both surprised and pleased that they could complete a project of this magnitude with a reasonable degree of independence.

The ability to carry out a multi-step project, conducted over the course of an academic year, is a transferable skill valued by potential employers. The acquisition of project management skills is of particular importance, since many of our participants indicated that they did not, at least at present, plan on entering graduate school in psychology.

Students were very protective of their finished products. While faculty do not give the seniors' data to upcoming students and treat these completed projects according to accepted principles of research ethics, the participants expressed pronounced concern that junior students would take their data and/or redo a project that they viewed as a hard-won personal accomplishment.

Many undergraduate programs make an independent capstone project optional for graduation, while other institutions have undergraduate students assisting with faculty or graduate student projects. While this latter experience has value and may be particularly useful for helping students see skilled investigators at work, as well as to have a publication as part of their graduate school application, this option appeared to be significantly less attractive to the students interviewed in this study. Additionally, while undergraduate students conducting their own research are frequently confined to gathering data on fellow college undergraduates, running one's own subjects was described as more valuable than analyzing an archival data set.

Finally, students indicated that they had a much deeper appreciation of the amount of work that goes into completing a psychological study. Even those studies that they had often criticized in their course work were viewed with newfound appreciation, expressed in remarks like "You have to respect the process."

References

Baxter Magoda, M.B. (2001). Making their own way: Narratives for transforming higher education to promote self-development. Sterling, VA: Stylus.

Baxter Magolda, M. B. (2004). Evolution of a constructivist conceptualization of epistemological reflection. *Educational Psychologist*, *39*, 31-42.

Boyer Commission on Educating Undergraduates in the Research University (2002). *Reinventing undergraduate education: Three years after the Boyer Report.* Stony Brook, NY: State University of New York at Stony Brook.

Dunn, M.A., McCarthy, S., Baker, S., Halonen, J.S., & Hill, J.J. (2007). Quality benchmarks in undergraduate psychology programs. American Psychologist, *62*, 650-670.

Gibson, Malmberg, M., Ratwik, S., Sawyer, T., Trouve, R., & Voight, (1993). Lake Superior State University Department of Psychology Self-Study. Unpublished manuscript.

Glaser, B. G., & Strauss, A. (1967). The discovery of grounded theory: Strategies for qualitative research. Chicago: Aldine Publishing Co.

Hammersley, M., & Atkinson, P. (1983). *Ethnography: Principles in practice*. New York: Tavistock Publications.

Holley, K. A. & Taylor, B. J. (2009). Undergraduate socialization and learning in an online professional curriculum. Innovative Higher Education, *33*, 257-269.

Hunter, A. B., Laursen, S. L. & Seymour, E. (2006). Becoming a scientist: The role of undergraduate research in students' cognitive, personal, and professional development. *Science Education*, *91*, 36-74.

McCracken, G. D. (1988). *The long interview*. Newbury Park, CA: Sage.

McGovern, T.V., Furmoto, L., Halpern, D.F., Kimble, G.A., & McKeachie, W.J. (1991). Liberal education, study in depth, and the arts and science major-psychology. American Psychologist, 46, 598-605.

National Science Foundation (2003). Enhancing research in the chemical sciences at predominantly undergraduate institutions. *Report from the Undergraduate Research Summit*. Lewiston, ME: Bates College.

Searight, H. R., & Young, R. (1994). Qualitative research and family systems medicine: A natural fit. Family Systems Medicine, 12, 117-131

Seymour, E., Hunter, A. B., Laursen, S. J., & DeAntoni, T. (2004). Establishing the benefits of research experiences for undergraduates in the sciences: First findings from a three year study. *Science Education*, 88, 493-534.

Spradley, J. P. (1979). The ethnographic interview. New York; Harcourt Brace.

Strauss, A. & Corbin, J. (1990). Basics of qualitative research. Newbury Park, CA: Sage.

Wenger, E. (1998). Communities of practice: Learning, meaning, and identity. Cambridge, MA: Cambridge University Press.

Figure 1: Overview of Year-Long Psychology Senior Research Experience at Lake Superior State University

Semester I

Experimental Design Critical Analysis of Published Research Review of Statistical Methods Data Analysis Procedures: Statistical Package for the Social Sciences (SPSS) Literature Search Strategies **Developing Testable Hypotheses** Operationalizing Constructs: Psychometric Issues Research Ethics and the Role of the Institutional Review Board Format for Presenting Research Findings (Mock Poster and Tables) Plan for Data Collection

Review of Experimental and Quasi-

Semester II

Completion of Institutional Review **Board Proposal** If Necessary, Modification of Project Based on IRB Feedback Pilot Testing of Study Procedures on Fellow Students and Faculty Recruiting Study Participants Data Gathering Data Analysis Write Research Report Construct Poster Present Poster at State-Wide Undergraduate Psychology Research Conference Present Poster at LSSU Poster Session for General University Audience

H. Russell Searight received his PhD in clinical psychology from St. Louis University in 1984. He received a Masters in public health from St. Louis University School of Public Health in 2003. He is currently Associate Professor of Psychology at Lake Superior State University in Sault Sainte Marie, Michigan. He has previously held faculty positions at Southern Illinois University -- Edwardsville, St. Louis University, and St. Louis University School of Medicine. In addition to the psychosocial development of emerging adult college students, his scholarly interests include the practice of psychology in primary health care and medical ethics.

Susan H. Ratwik received her BA in Psychology from the University of Minnesota. She received her PhD in Psychology from the University of Notre Dame in 1978. For a number of years, Dr Ratwik served as the Chairperson of Lake Superior State University's Psychology Department. In 1990, she received the University's Distinguished Teacher Award. She teaches courses in research, statistics, experimental psychology, child development, and social psychology. Dr Ratwik has also supervised the senior research projects described in this article for over 20 years. Her research and scholarly interests include language development among persons with Down Syndrome.

Todd J. Smith received his BA in both psychology and biochemistry from Maryville College. He received his PhD in experimental psychology from the University of Tennessee. Dr. Smith is currently Assistant Professor and Director of the Psychology program at St. Catharine College in St. Catharine, Kentucky. He has held previous faculty positions at Lake Superior State University, Pikeville College, and the University of Maryland College in Europe. His area of research is in animal behavior – specifically the behavior of zoo animals.

114 Volume 5 ● 2010

INFORMATION FOR CONTRIBUTORS

Call for Papers

Volume 6: Scholarly 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 Scholarly Teaching. Faculty are encouraged to submit original manuscripts that showcase scholarly teaching processes or critically discuss the scholarship of teaching and learning (SoTL) as a scholarship paradigm. While reports of scholarly teaching 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 APA 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 100 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 March 1, 2011 (CST) to be considered for inclusion in Volume 6.

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 12 weeks. Referees' feedback and editorial comments will be provided to the author when revisions are requested. CETL retains the final authority to accept or reject all submitted manuscripts. The publication will be distributed both in print and online fall 2011.

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

116 Volume 5 ● 2010

INFORMATION FOR CONTRIBUTORS

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.

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:

- <u>Title</u> 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.
- <u>Abstract</u> 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).
- <u>Body</u> Within the body of a manuscript, information should be organized and sub-headed in a structure that facilitates understanding of key issues. 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
 - o http://www.athleticInSight.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.ht m
- 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.

- <u>References</u> 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.
- <u>Tables, Figures, Appendices & Graphics</u> 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.

INFORMATION FOR CONTRIBUTORS

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.
- <u>Significance</u> Related to relevance, significance refers to the value of your manuscript for substantially impacting the enhancement of postsecondary education relevant to the target topic. Significant manuscripts will clearly highlight the value, importance and worth of a relevant topic within a meaningful context.
- <u>Practical Utility</u> 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.
- <u>Scholarship of Teaching</u> 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.
- <u>Generalizability</u> 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.
- <u>Clarity</u> 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.

 <u>Contribution to the Scholarship of Teaching and Learning</u> - 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:

- <u>Reject</u> 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.
- Revise and Resubmit A manuscript given a revise-and-resubmit recommendation indicates that reviewers find value in the pedagogical relevance of the information but would like to see extensive modifications prior to re-considering for publication.
- <u>Accept Pending Revisions</u> 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.
- <u>Accept</u> Accepted manuscripts will be published "as-is" with no further modifications required.

122 *Volume 5* ● 2010

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.

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

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

For graphic design assistance: Fred Rohrer, Graphic Designer.

For copyediting: Keith Snyder.

"Education is that which discloses to the wise and disguises from the foolish their lack of understanding."

~Ambrose Bierce