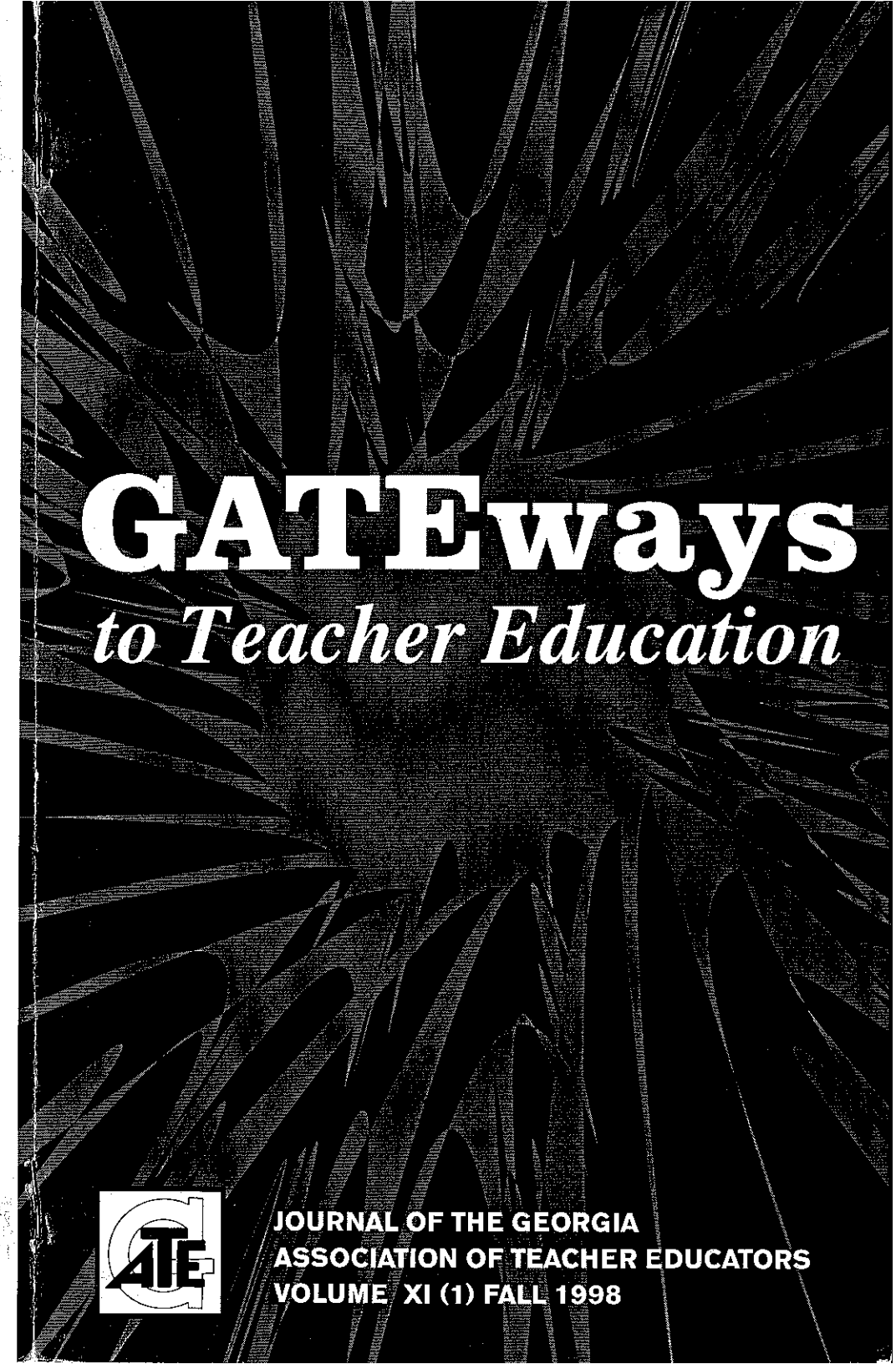

GATEways
to Teacher Education
JOURNAL OF THE GEORGIA
ASSOCIATION OF TEACHER EDUCATORS
VOLUME XI (1) FALL 1998

GATEways to Teacher Education

The Journal of the Georgia Association of Teacher Educators

published by
GATE and Kennesaw State University

Volume XI(1)
Fall 1998

From the Editor

I'm pleased to tell you that this has been a very good year for the Journal. We had more than double the usual number of submissions, and the reviewers recommended accepting eight of them for publication. Consequently, we will publish two issues this year, each with four articles. The second issue will be distributed in Spring, 1999.

The articles in this issue of ***GATEways*** share a theme of improving teacher preparation courses. They describe instructional methods and organizational structures that seem to make a difference in the effectiveness of either undergraduate or graduate courses. Kassem describes how children's literature can be used to illustrate principles and personalize learning in any course; Johnson et al. compare the effects of teaching science methods in two different settings on preservice teachers' perceptions of teaching; VanZile-Tamsen describes characteristics of preservice educational psychology classes perceived as useful by classroom teachers; and Onwuegbuzie discusses implications of teachers' attitudes about research for teaching courses in educational research methods. I hope you will find these articles valuable for dialog about teacher education courses at your institutions.

The Spring, 1999, issue will be the last of my editorship. I am pleased that Jackie Anglin of Berry College has agreed to serve as the next editor. I will pass ***GATEways*** into her capable hands beginning with the Fall, 1999, issue. Thanks to all of you who have helped make the Journal a success for the past three years!

The Journal is a resource and representation of our organization. I invite you to continue to contribute to its health and well-being by submitting articles, by sharing the publication with colleagues and encouraging them to submit material, and by offering feedback and suggestions for improvement. With our efforts, ***GATEways*** will continue to grow. Thank you for your support.

Diane Willey
Editor

GATEways to Teacher Education

Volume XI(1)
Fall 1998

Table of Contents

Children's Literature:
A Tool for Improving Teacher Education 4
Cherrie L. Kassem
Piedmont College

Teaching Science Methods at a
Professional Development School Site
Enhances Student's Learning: Fact or Fiction 8
Emily A. Johnson, Anita S. VanBrackle,
& Ann Campbell
Kennesaw State University

Making Educational Psychology
More Relevant for Teacher Preparation:
Suggestions from Inservice Teachers 24
Carole VanZile-Tamsen
State University of West Georgia

Teachers' Attitudes Towards
Educational Research Courses: Implications
for the Teacher-as-Researcher Movement 38
Anthony J. Onwuegbuzie
Valdosta State University

Children's Literature: A Tool for Improving Teacher Education

Cherrie L. Kassem
Piedmont College

In **A Celebration of Neurons**, Robert Sylwester (1995) contends that storytelling, as a broad concept, is the best vehicle to help students identify relationships among random facts or experiences. Memory theory suggests that stories (in the form of conversations, role plays, games, films, literary works, etc.) improve students' long-term memories by creating new personal events and images, stored as episodic memories (Schank, 1990).

Children's literature provides one excellent way to include the element of storytelling in any classroom. Appropriate children's literature exists for nearly every subject, every genre, and every developmental level. It is engaging for its simplicity, humor, dramatic elements, and wonderful illustrations. It is a great way to introduce new themes or concepts, to promote student interest, to spark creative thinking, to explore social issues, or to show the application of selected concepts and principles. It also appeals to multiple areas of intelligence (Gardner, 1993) and to multiple learning styles (Dunn & Dunn, 1987).

As an example, consider the use of Rathman's (1995) Caldecott Award winning picture book **Officer Buckle and Gloria** in an Educational Psychology course for preservice teachers. The book is about the friendly police officer/educator Officer Buckle, who makes presentations on safety at all the local schools. In auditoriums full of children, Officer Buckle lectures to kids who find his lessons boring and who learn nothing about safety. One day the Napville Police Department acquires a new police dog named Gloria. Gloria begins to accompany Officer Buckle on his safety lectures. Unbeknownst to him, Gloria is

acting out or demonstrating each safety tip in a humorous way. Suddenly, Officer Buckle's safety lectures become enormously popular. Everyone wants to see Officer Buckle and Gloria perform, and students are practicing safe habits. But when Officer Buckle discovers he has been upstaged, he decides to give up teaching safety tips. Napville seems destined for its worst accident ever. The conclusion speaks to the need for teamwork and friendship.

At first glance, this children's picture book seems to be just an amusing dog story, one that kids love. But in an Educational Psychology course in which the primary goal is to study research-based elements of effective instruction, this book has proven useful in stimulating discussion about what makes a good teacher. Officer Buckle's delivery serves as a springboard for discussion about direct instruction and about the techniques that make it effective or ineffective. Students love to compare the dull lectures by Officer Buckle to the many dull lectures they have experienced, and then to discover elements (such as the use of humor, visuals, and real-life demonstrations) that can improve the appeal and the impact of presentations. This discussion can lead to a deeper discussion about learning--what it is, what facilitates it, and how to apply principles of learning in real-life settings, as Officer Buckle and Gloria did.

As a second example, let's examine the use of Ed Young's (1992) Caldecott Medal picture book **Seven Blind Mice** for use in a Learning and Cognition course. The story is the Indian fable about seven blind mice who attempt to identify a strange object by touch. Each of the six blind mice explores only a portion of the object and makes an erroneous proclamation about what it is. The seventh mouse explores the entire object and then combines the partial information from each mouse to form a complete picture of the whole object, an elephant.

This tale is a wonderfully vivid way of introducing and discussing the concept of perception, of how our memories affect

perceptions, and of the Gestalt principle of perception that the whole is greater than the sum of its parts. The story typically precipitates other stories by students about times they have likewise misperceived events or people due to incomplete information or distorted memories. The story is a great prelude to discussions about how perception affects learning and cognition. It can also stimulate discussions about stereotypes and how they form or about the effects of culture on our memories/perceptions.

These are but two examples of the richness and appropriateness of children's literature for improving teacher education. Children's literature can help us bring an element of authenticity into the classroom, it can help us create an extended metaphor, or it can facilitate understanding and memory of important pedagogical concepts by using the element of story. But reading children's literature in teacher education classes has an additional benefit, one that may supercede others. It permits instructors to model something we hope becomes a habit for all educators--reading for pleasure. We can read children's literature (or anything else) just for the fun of it. It also models something we hope becomes a habit in every classroom in the nation--teachers reading aloud to their own students.

For educators interested in finding appropriate children's literature to incorporate into lessons, the Huck et al. (1997) text, **Children's Literature in the Elementary School**, is a fantastic resource book. The endpages list 150 age-appropriate read aloud books (up through age 14), while the appendices cite selection aids for every need. The text is a wonderful source of reviews, illustrations, genre groupings, award information, subject groupings, teaching ideas, and much more. Using the right resources makes teaching with children's literature easy.

References

Dunn, K., & Dunn, R. (1987). Dispelling outmoded beliefs about student learning. **Educational Leadership**. **46**(6), 50-58.

Gardner, H. (1993). **Multiple intelligences: The theory in practice**. New York: Basic Books.

Huck, C. S. Hepler, S., Hickman, J., & Kiefer, B. Z. (1997). **Children's literature in the elementary school**. Madison, WI: Brown & Benchmark.

Rathman, P. (1995). **Officer Buckle and Gloria**. New York: Putnam.

Schank, R. C. (1990). **Tell me a story: A new look at real and artificial memory**. New York: Scribner.

Sylwester, R. (1995). **A celebration of neurons: An educator's guide to the human brain**. Alexandria, VA: ASCD.

Young, E. (1992). **Seven blind mice**. New York: Philomel.

Cherrie Kassem is an Associate Professor in the Education Division of Piedmont College where she teaches courses in educational psychology, learning and cognition, critical thinking and creativity, educational assessment, and children's literature. Her many outside interests include writing children's poetry and learning to play jazz percussion instruments.

Contact Dr. Cherrie Kassem at:
P.O.Box 10
Piedmont College
Demorest, GA, 30535
706.778.8500, ext. 203
ckassem@piedmont.edu

Teaching Science Methods at a Professional Development School Site Enhances Students' Learning: Fact or Fiction?

Emily A. Johnson, Anita S. VanBrackle, & Ann Campbell
Kennesaw State University

Abstract

University students involved in this study were enrolled in their elementary and early childhood methods and materials courses and received their instruction in two locations. One class was given traditional instruction in the university setting while the other two classes were taught at a Professional Development School site. Both classes were given a pre- and post-assessment attitude survey related to their feelings about the subject of science and about teaching science.

To further assist in evaluating the impact of having classes at a PDS site, the students at both sites answered four open-ended questions after teaching either a science microteaching lesson on campus or a science lesson to an elementary class at the PDS site. Responses to the four open-ended questions were compared. Results offer interesting implications for teacher education programs and the use of Professional Development Schools.

Introduction

Teacher preparation programs consist of many varied experiences for preservice teachers. These include, but are not limited to, content course work, classes on pedagogy, and field experiences. Traditionally, students majoring in education have spent four years in a college or university setting participating in courses to establish their knowledge base and to gain an

understanding of pedagogy. These experiences have culminated during the fourth year in field experiences where students have been expected to incorporate all elements of their teacher preparation program into effective teaching practice.

Stetson and Stetson (1997) reported that many researchers, such as Carnegie, 1986; Goodlad, 1990; and Ishler, 1996, have been making strong statements concerning the need for effective teacher preparation programs to move to the field in a combined effort between public schools and higher education faculty. Collaborative field-based instructional sites known as Professional Development Schools (PDS) are one way education professionals have begun to meet this need and to reform preservice preparation programs (Kaufman, 1996). Over 300 Professional Development Schools have been documented by the **Clinical Schools Clearinghouse** (Abal-Haqq, 1996) and the actual number may be double that reported. Professional Development Schools address goals such as the following: to better prepare new teachers, to enhance the skills and knowledge of experienced educators, and to improve practice through action research. (What Is A Professional Development School?, 1997).

The Holmes Group, formed in the 1980s as an affiliation of colleges of education, has been a leader in the establishment of Professional Development Schools by providing theoretical and practical guidelines (What Is a Professional Development School?, 1997). In **Tomorrow's Schools: Principles for the Design of Professional Development Schools** (1990), the Holmes Group presented the general premise that the school and the university are equal partners at the PDS site. Both institutions assume joint responsibility for the quality of educational practice, working to create a learning affiliation where the partners learn from each other, share information and resources, and plan and teach together.

Studies which compare students from the same institution participating in traditional teacher preparation programs and in

Professional Development School programs have some similarities, but often yield mixed results (Hecht, et al., 1996; Long & Morrow, 1995). These characteristics make it difficult to make generalizations about the effectiveness of PDS schools compared to traditional teacher preparation programs; therefore, additional research is necessary.

A study by Long and Morrow (1995) compared PDS interns' and traditional teacher preparation students' (1) scores on the National Teacher Examination, (2) beliefs about teaching, learning, and subject matter; (3) attitudes toward mainstreaming, and (4) preparation for the first year of teaching. Results indicated that there were no differences on the National Teacher Examination or on the measure of beliefs about teaching, learning, and subject matter. The PDS students were significantly more positive toward inclusion of children with disabilities and were better prepared for the first year of teaching than graduates from traditional teacher preparation experiences.

Students' reflections about the teaching/learning process appear to be a commonly examined variable in comparison studies of PDS teacher preparation and traditional teacher preparation. Dewey (1909/1933) identified the concepts of reflective thinking and teaching and described the reflective teacher as one who is able to confront professional obstacles and develop a plan of future action. Long and Morrow (1995) and Hecht et al. (1996) included reflection on the teaching/learning process as a part of their studies. Their analyses did not find differences in reflection between the groups.

To further the research base on the effectiveness of Professional Development Schools, a research study was undertaken at Kennesaw State University to compare the attitudes about content and teaching and perceptions of the planning/teaching process of preservice teachers at a PDS site with those of preservice teachers at a university site.

Methodology

Subjects

The 66 students in this study were seniors at a four-year state university in a suburban area of the southeast. Sixty-three of the students were female and 3 were male. Included in the group were two minority students. All were early childhood education majors who had completed a course on curriculum development and had participated in at least one field experience in an introductory education course. During the study the students were enrolled in four methods courses: science, language arts, social studies, and mathematics. Students were in three different sections of these four courses. Two sections met at a PDS site (n = 44) and one section met at the university site (n = 22). Assignment to the three sections occurred through the student registration process.

Procedures

In an effort to evaluate the impact of having classes at a PDS site, a study was designed to assess two aspects of preservice teacher experiences: (1) attitudes about content and content teaching and (2) perceptions of the planning/teaching process. All data were collected in the science methods classes during Winter Quarter, 1998. The university professors of the three sections of science methods were experienced college faculty, used the same text (Martin, 1995) and had similar course expectations which included, but were not limited to, the planning and teaching of a science lesson.

Attitudes regarding science and science teaching were assessed before and after participation in the science methods course. The pre-assessment survey was administered before classes began and the same survey was given again after five weeks of methods instruction, before the students began the field portion of their methods classes. Due to the unavailability of some students for pre- or post-assessment, the sample for the attitudinal survey consisted of 59 students: 40 for the PDS site

and 19 for the university site.

Assessment of students' perceptions of the planning/teaching process occurred immediately following their experience of teaching a science lesson. Students were asked to complete a four-item questionnaire consisting of open-ended questions. In the PDS situation, students taught their lessons to children in classrooms at the PDS site. In the campus situation, students participated in microteaching where they presented the lessons to a small group of peers who emulated the behaviors of the targeted grade level. Following these two planning/teaching experiences, students reflected on the experience by answering the four open-ended questions about the planning/teaching process.

Instrumentation

To assess students' attitudes, the researchers adapted a 20-item attitudinal survey designed by Aiken (1972). Students responded to statements with strongly agree, agree, undecided, disagree, and strongly disagree. The survey consisted of statements that assessed students' attitudes (1) about the subject of science and (2) about teaching science.

Student perceptions of the planning/teaching process were assessed using a questionnaire developed by the researchers. The questionnaire consisted of the following four questions:

1. Now that you have taught your practice lesson, what do you feel are your strengths in teaching?
2. Now that you have taught your practice lesson, what do you feel are areas in which you can improve?
3. What do you feel are the most important aspects of planning a lesson?
4. What do you feel are the most important aspects of teaching a lesson?

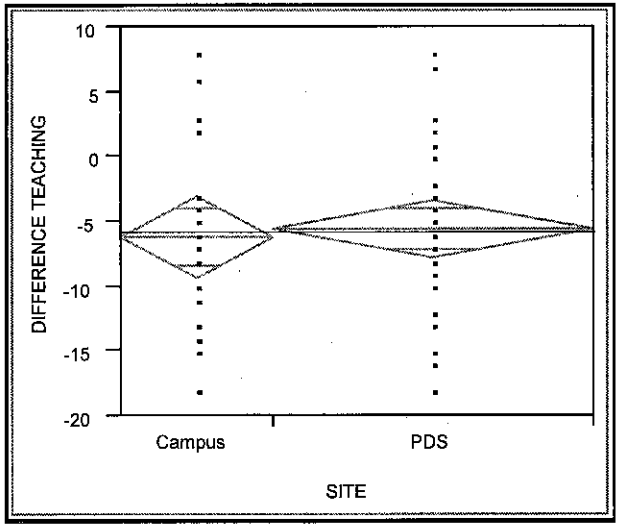
Results

Attitudes about content and teaching. The pre- and post-

assessment attitude surveys were analyzed using JMP IN statistical software program (1996) by applying the t-test for non-independent samples to determine if there were significant changes in attitudes (1) about teaching science and (2) about science. The results, presented in Figures 1 and 2, showed that there was no significant difference between groups ($p > .05$) for the two attitudes assessed.

Perceptions of the planning/teaching process. Qualitative data analyses were used to identify the similarities and differences

Figure 1. Differences in Attitudes about Teaching Science by Site



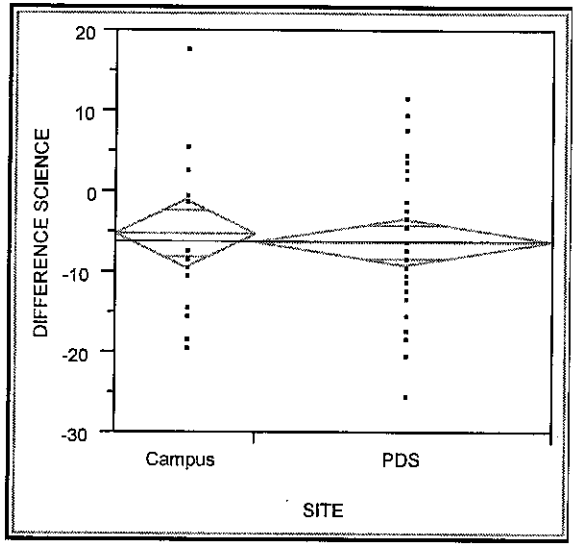
t-test

	Difference	t	DF	Prob>|t|
Estimate	-0.55789	-0.283	57	0.7780
Std Error	1.96952			

Means

Site	N	Mean
Campus	19	-6.15789
PDS	40	-5.60000

Figure 2. Differences in Attitudes about Science by Site



t-test

	Difference	t	DF	Prob>|t|
Estimate	1.19737	0.455	57	0.6511
Std Error	2.63409			

Means

Site	N	Mean
Campus	19	-5.05263
PDS	40	-6.25000

in students' responses to the four-item questionnaire. The responses were organized by question and site and analyzed for similarity by noting patterns and themes; response categories were then identified (Creswell, 1998). Four broad categories of responses emerged: **instruction, student behavior, teacher behavior**, and the **dynamics of teaching**.

Identified commonalties between the two groups for all four questions occurred most frequently in the response categories of

instruction, student behavior, and teacher behavior. Tables 1 - 4 provide summaries of responses to each question by category of response. Interesting information is also obtained by looking at the responses solely by category. Common responses for **instruction** included such aspects as monitoring the flow of the lesson, giving relevant examples, having materials prepared, making the lesson interesting, getting student attention, using

Table 1. Question 1. Now that you have taught your practice lesson, what do you feel are your strengths in teaching?

	PDS	PDS & Campus	Campus
Instruction	•helping students understand •sequencing •using many visuals •explaining rules •providing feedback	•lesson flow •questioning •communication •relevant examples	•being well received •clear lessons •good experiments
Student Behaviors	•having students understand objectives	•student participation •age appropriateness	•student input
Teacher Behaviors	•confidence •being poised •being calm	•enthusiasm •knowledge base •being prepared •organization	•energy •enjoyment

Table 2. Question 2. Now that you have taught your practice lesson, what do you feel are the areas in which you can improve?

	PDS	PDS & Campus	Campus
Instruction	•model the activity •assessment •planning of details •have students cleanup	•give clear directions •plan extension activities •careful sequencing •plan materials	•activities •explain new terms •ask more questions •limit expectations •use more examples
Student Behavior	•address different levels of student knowledge •question at all levels	•age appropriate activities	
Teacher Behavior	•try activity in advance •review the book •not be nervous •develop confidence	•improve knowledge base •don't be afraid	•organization •practice procedures •knowledge of concepts

hands-on materials, and giving clear directions. The commonalties for **student behaviors** included having students participate, being aware of the age appropriateness of instruction, addressing learning styles, and getting students involved. For **teacher behaviors**, the similar responses included being enthusiastic, being organized, improving the knowledge base, and being prepared.

There were also differences among the responses between the students at the PDS site and the university site. For the category of **instruction**, PDS students identified providing feedback, helping students understand, modeling the activity, checking student understanding, having back-up plans, checking prior

Table 3. **Question 3. What do you feel are the most important aspects of planning a lesson?**

	PDS	PDS & Campus	Campus
Instruction	•have back-up plans •appropriate materials •use modeling •check understanding •have enough activities •use multiple intelligence activities •plan remediation •build on prior knowledge •clear examples	•plan assessment •hands-on materials •plan details	•know objectives •activities •flow •material distribution time •clear goals and objectives •use many resources
Student Behavior		•age/grade appropriate •address learning styles	
Teacher Behavior	•prepare for all level of questions	•practice •test activities in advance •know content •be prepared •have material/ equipment ready	

Table 4. **Question 4. What do you feel are the most important aspects of teaching a lesson?**

	PDS	PDS & Campus	Campus
Instruction	•adapt as you go •assessment of objectives •pace of lesson •check prior knowledge •stimulating content •variety of activities •use many visuals	•materials prepared •get students' attention •interesting •good introduction •make learning fun	•communicate information clearly •anticipate questions •get the point across •plan extension activities
Student Behavior	•chance to respond/discuss •present so students can understand •maintain their attention	•students involved •address learning styles •address learning abilities •age/grade appropriate •individual needs •relate learning to previous experiences	
Teacher Behavior	•keep focused •relax •be enthusiastic •get experience	•flexibility •organization •know content •be prepared	•stay cool •practice

knowledge, and explaining rules. University-based students identified the following aspects of instruction: having good experiments, having clear lessons, asking more questions, knowing objectives, providing time for material distribution, and planning extension activities.

For the area of **student behaviors** there were noted differences in the responses given by students at the PDS site and the university site. The PDS students identified addressing different levels of student knowledge, maintaining student attention, and presenting so students can understand. University-based students identified only one unique response--using student input.

Differences between the responses for **teacher behaviors** also emerged. The students at the PDS site identified such aspects as

confidence, trying the activity in advance, preparing for all levels of questions, keeping focused, and relaxing. University-based students identified energy, enjoyment, and organization as important teacher behaviors.

The area of **classroom dynamics** had many concepts and themes embedded that required further subdivision into five categories: **adaptability, involvement, motivation/climate, management and transitions**. Both groups identified behaviors for involvement, motivation/climate, and management; however, no common responses emerged for transitions or adaptability. Tables 5 - 8 present the summaries of responses by question for the five subdivisions of the dynamics of the classroom. Additional information is gained by comparing the responses across the subdivisions.

Unique responses by the PDS students for the area of

Table 5. Classroom Dynamics Question 1. Now that you have taught your practice lesson, what do you feel are your strengths in teaching?

	PDS	PDS & Campus	Campus
Adaptability	•accommodations in middle of lesson •adjust instruction		
Involvement	•interacting with students •acknowledge responses •see children get excited •determine when student needs help	•good rapport	
Motivation/ Climate	•supporting students •encourage them to think	•student interest •creativity	•creating excitement
Management	•eliminate behaviors through relationships with students	•gained students attention	
Transitions	•smooth transitions		

Table 6. Classroom Dynamics Question 2. Now that you have taught your practice lesson, what do you feel are the areas in which you can improve?

	PDS	PDS & Campus	Campus
Adaptability	•dealing with unforeseen		
Involvement	•eye contact		•wait time
Motivation/ Climate			•encourage discussion •more positive
Management	•keeping students on task •reestablishing attention •assigning to groups •keeping discussion focused	•time management •behavior management	
Transitions	•smoother transitions		

Table 7. Classroom Dynamics Question 3. What do you feel are the most important aspects of planning a lesson?

	PDS	PDS & Campus	Campus
Adaptability			•be ready for anything •plan time for
Involvement		•student involvement	
Motivation/ Climate	•creativity •motivating students •make it enjoyable	•interest	
Management	•keeping students focused •setting rules •maintain attention	•time management •behavior management •gain students attention	
Transitions	•plan transitions		

adaptability included making accommodations in the middle of the lesson, dealing with the unforeseen, and using everything as an opportunity for learning. Students at the university identified two unique responses in the area of adaptability: being ready for

Table 8. **Classroom Dynamics Question 4. What do you feel are the most important aspects of teaching a lesson?**

	PDS	PDS & Campus	Campus
Adaptability	•have a filler •use everything as an opportunity to learn		
Involvement			
Motivation/ Climate	•learning meaningful •mutual respect •enable success •be positive		•create learning environment
Management	•maintain attention		
Transitions			

anything and planning time for unexpected events.

Responses in the area of **involvement** which were particular to the PDS students included acknowledging student responses, determining when a student needs help, and making eye contact. University-based students identified one unique response in the area of involvement: using wait time.

PDS students responded in the area of **motivation/climate** with encouraging students to think, making learning meaningful, establishing mutual respect, and enabling success. University-based students responded with the following unique aspects: encouraging discussion, allowing more discovery, giving more positive feedback, creating a learning environment, and creating excitement.

The unique responses for the PDS students in the area of **management** included assigning students to groups, keeping students on task, setting rules, and maintaining attention. University-based students did not identify any unique responses in the area of management.

Only the PDS students identified the category of **transitions** with such responses as plan transitions and conduct smooth transitions.

Discussion

The commonalties of responses for the areas of instruction, teacher behaviors and student behaviors can be interpreted to mean that methods courses regardless of site can provide a solid foundation for the basic understanding of the planning/teaching process. Both groups identified appropriate, significant aspects of the teaching/planning process.

PDS students identified more unique responses for the area of classroom dynamics than did the university-based students. This difference may imply that a PDS site increases students' awareness of the dynamics of the teaching/learning process, an outcome that does not occur in a microteaching situation.

Finally, since there was no difference in the students' attitudes about science and science teaching, it can be interpreted that five weeks is not a sufficient amount of time to change attitudes which have taken a lifetime to develop. An alternative interpretation is that the instrument may not have been sensitive enough to measure any change in attitudes.

References

Abal-Haqq, I. (1996). Locating resources on professional development schools. **ERIC Digest**. Washington, DC: Office of Educational Research and Improvement (ED). (ERIC Document Reproduction Service No. ED 398 216.)

Aiken, L. (1972). Research on attitudes toward mathematics.

Arithmetic Teacher, **19**(3), 230-231.

Carnegie Forum on Education and the Economy, Task Force on Teaching as a Profession. (1986). **A nation prepared: Teachers for the 21st century**. New York: Carnegie Forum on Education and the Economy.

Creswell, J. (1998). **Qualitative inquiry and research design: Choosing among five traditions**. Thousand Oaks, CA: SAGE.

Dewey, J. (1933). **How we think: A restatement of the relation of reflective thinking to the educative process**. Boston: D.C. Heath. (Original work published 1909).

Goodlad, J. I. (1990). **Teachers for our nations schools**. San Francisco: Jossey-Bass.

Hecht, J. B., Bland, S. J., Schoon, P. L., & Boschert, K. (1996). **Professional development school 1995-96. A research report**. Illinois State University, Normal College of Education. (ERIC Document Reproduction Service No. ED 404 306)

Holmes Group, (1990). **Tomorrow's teachers**. East Lansing, MI: Holmes Group.

Ishler, R. E. (1996). The future of schools of education: Is there one? **National Forum**, **76**(4), 3-4.

JMP IN Statistical Discovery Software, Version 3.2 [computer software]. (1996). New York: Duxbury.

Kaufman, M. (1996). What is a professional development school? Regional Alliance Higher Education Reform Network. [On-line web site]. Available Internet: http://www.ed.gov/pubs/IASA/newletters/profdev/pt3.html

Long, J.C. & Morrow, J. (1995). **Research analysis of professional development school graduates and traditional phase I and phase II graduates**. Detroit, MI: Paper presented at the Annual Meeting of the Association of Teacher Educators. (ERIC Document Reproduction Service No. ED 382 570.)

Martin, D. (1995). **Elementary science methods: A constructivist approach**. Albany, NY: Delmar.

Stetson, E. & Stetson, R. (1997). Overhauling teacher education: It takes a collaborative. **Education**, **117**(4), 487-495.

What Is a Professional Development School? (1997). Southwest Florida Teacher Education Center Consortium [On-line web site]. Available Internet: http://www.lee.k12.us/dept/sdc/grants/pds.htm

---

Emily A. Johnson is an Associate Professor at Kennesaw State University. She has prior experiences with preschoolers, elementary-aged children, and students at the undergraduate and graduate levels. Dr. Johnson now teaches early childhood science methods, growth and development, and preschool courses.

Anita S. VanBrackle is an Associate Professor at Kennesaw State University. Prior to coming to Kennesaw State University, she worked for 17 years in public schools, teaching grades 1-7, in both general education and special education. Dr. VanBrackle now teaches both science and math methods to undergraduate EECE majors and graduate courses in Portfolio, Educational Research, and Current Trends and Issues in Mathematics.

Ann Campbell is an adjunct professor at Kennesaw State University teaching early childhood science methods and supervising student teachers. She has prior experiences with elementary and middle school children. Her area of expertise is environmental education, and she conducts staff development workshops in this area.

Contact Dr. Emily Johnson at:
EECE Dept
Kennesaw State University
1000 Chastain Rd
Kennesaw, GA 30144
voice: 770.499.3570
fax: 770.423.6527
ejohnson@ksumail.kennesaw.edu

Making Educational Psychology More Relevant for Teacher Preparation: Suggestions from In-Service Teachers

Carol VanZile-Tamsen
State University of West Georgia

Abstract

In-service teachers were asked to reflect upon the relevance of educational psychology courses for teacher preparation to inform the design of more useful, relevant educational psychology courses for pre-service teachers. The participants were 34 in-service teachers enrolled in a graduate educational psychology class. They were asked to respond to an open-ended questionnaire in which they were to describe any educational psychology course taken in their pre-service preparation and reflect on the usefulness of this course for their teaching. The data suggest that there are three types of educational psychology classes being taught to pre-service teachers: theory only, application only, and theory combined with application. Only the combination courses were seen as being useful in teacher preparation; none of the participants indicated that a theory-only or application-only course was useful. In addition, the usefulness of an educational psychology class was related to three distinct factors: application to "real" classrooms, connections or experiences with classroom settings, and a sound theoretical foundation.

Ever since the 1970's, there has been concern about the usefulness of educational psychology courses for teacher preparation (Ellett, 1972). The tradition of teaching educational psychology as a foundation for teachers began with Thorndike (1910) and continued in the same vein for the next 80 years. In this model, educational psychology content is provided to pre-

service teachers and, generally, the application of that content to the teaching situation is left for the students to achieve once they get into a classroom setting (Shuell, 1996). In addition to the lack of practical application, many of these classes do not embody or model the educational and psychological principles which they attempt to teach (Kiewra & Gubbels, 1997).

In the past few years, this concern about the usefulness of educational psychology courses for teacher preparation has come to the forefront among educational psychologists. Several educational psychologists have examined how pre-service educational psychology courses are taught and how these courses **should** be taught (Anderson, Blumenfeld, Pintrich, Clark, Marx, & Peterson, 1995; Doyle & Carter, 1996; Shuell, 1996; VanZile-Tamsen, 1997). The general consensus is that professors of educational psychology should use more authentic classroom activities as teaching tools so that we move away from what pre-service teachers know and focus on what they can do. In addition, evaluation methods in these classes should move away from paper-and-pencil tests of declarative knowledge toward methods which evaluate both performance and understanding of course concepts.

The changing ideas about the way these courses are taught is a direct result of important research in the area of human learning and memory. For example, these changes relate to the difference between declarative and procedural knowledge as delineated by Brown, Collins, and Duguid (1988). The main idea behind their work is that, if we, as teachers, want students to learn how to do a task, then we need to provide experiences that allow **practice** of the task, not just information **about** the task. These experiences (called authentic activities by Brown et al.) allow pre-service teachers to develop procedural knowledge by encouraging practice of the skills which are required in real classroom settings. In addition to the important practice these activities provide, authentic activities also foster the transfer of course concepts to

applied settings. Examples of authentic activities which have been proposed for pre-service teachers in educational psychology courses have included the development of lesson plans which incorporate findings from recent cognitive research (Shuell, 1996) and the analysis of "rich" cases that allow pre-service teachers to "practice" effective classroom management techniques (Anderson, et al., 1995).

Not only do educational psychologists see such changes in class activities as essential to enhancing the usefulness of educational psychology courses for teacher preparation, but pre-service teachers do as well. In a qualitative examination of students beliefs about the value of an educational psychology course before and after student teaching, VanZile-Tamsen (1997) found that pre-service teachers see declarative knowledge about students and teaching as important before student teaching. However, after they have experienced a real classroom for the first time, these pre-service teachers call for more hands-on activities which provide practice in the following areas: managing the classroom, dealing with discipline problems, making modifications to individualize instruction, and motivating students.

In addition to the influence of new ideas about the importance of distinguishing between declarative and procedural knowledge, the constructivist model has begun to replace the information processing model as the predominant theory of learning. The constructivist model grew as a reaction against the information processing model based on real learning that occurs in actual academic situations (Davis & Sumara, 1997; Mayer, 1996). The main idea behind the constructivist model is that humans are knowledge constructors; they respond to new information and new situations based on what they already know and understand. The teacher's role is to facilitate this process for the students. In other words, it is no longer enough to present direct instruction. Teachers must now structure activities in which students are

encouraged to actively make sense of information and restructure their knowledge based on the new information. According to this model, effective methods of instruction would be discussion, guided discovery, and participation in authentic activities. Evaluation of learning would involve evaluating students' understanding of concepts, as well as their performance of important tasks.

Adoption of the constructivist model as a guide for appropriate instructional methods has been slow. Nonetheless, the reform that is taking place in the design of educational psychology courses is centered around constructivist methods. The courses are incorporating student-centered methods which emphasize authentic activities. However, a major difficulty of designing courses for pre-service teachers which are student-centered is that the very important perspective of the practicing teacher is ignored. In the true student-centered model, the instructor would emphasize what students want and need to learn. Since pre-service teachers may not have enough experience to know what they need to learn, information from experienced teachers is the next best thing. The purpose of the present study was to gather information from in-service teachers about the usefulness of educational psychology courses in teacher preparation. It was hoped that this perspective would provide important information about what to include in educational psychology courses to make them more relevant for pre-service teachers.

Since the main emphasis of the study was on the in-service teachers' perspective, open-ended questions were used so as not to influence their responses. In addition, the resulting qualitative data would provide richer descriptions of the usefulness of educational psychology for teacher preparation, thus making it easier to translate findings to specific changes in the educational psychology course (Kvale, 1994). The qualitative information collected in the present study consisted of in-service

teachers' written responses to one open-ended question after they had experienced Psychology for Classroom Learning, an advanced educational psychology class for experienced teachers.

Method

Participants

The participants in this study were 34 graduate students in teacher education at a mid-size, Southeastern university enrolled in the investigator's Psychology for Classroom Learning Class during fall quarter. Of these students, 28 were enrolled in masters programs, while three were Ed.S. students. One of these students was enrolled in a certification-only program, and two did not indicate their degree program. There were three males and 31 females in the class; one of these women was African-American, and the rest of the students were white. The average age of the participants was 36, while, on average, they had completed 33.44 quarter hours in their programs before taking this class. The average grade point average (GPA) of these students was 3.87. The amount of classroom teaching experience ranged from 2 to 20 years.

Procedure

The participants responded to an open-ended questionnaire at the end of the fall quarter after they had experienced Psychology for Classroom Learning. This course was offered at an off-campus site located approximately 30 miles from campus. During the second class period, as well as during subsequent class periods, the class discussed the articles by Shuell (1996) and Brown, Collins, and Duguid (1989) which were both required reading for the course. The main thrust of these discussions involved the application of theory to practice, the difference in declarative versus procedural knowledge, and the difficulty of transferring "school learning" to real-world situations.

At the end of the quarter, these teachers were asked to respond to an open-ended questionnaire concerning several aspects of the course itself. Students were also asked to supply demographic information and to indicate whether or not they had taken an educational psychology course in their initial teacher preparation program. They were also to respond to the following question: "If you have taken an educational psychology course for pre-service teachers, please describe it. Was it useful to you once you actually entered the classroom?"

Data Analysis

The responses from the questionnaires were entered verbatim into tables in a word processing package; initially, there was one table for each participant which included his/her answers to each of the questions. Participants were then grouped according to certification area and ordered in each area according to descending level of experience. Then, case ordered matrices were formed (Miles & Huberman, 1994) in which the participants were listed in order within the subgroups in one column of a large chart. Their responses to the question concerning the previous educational psychology class were listed in this chart in the second column. Then, key themes were identified within each person's responses. These themes are summarized into the taxonomies shown in Tables 1 and 3.

Results

The first table shows the different categories of educational psychology courses that students remembered taking as pre-service teachers. In general, there were three main types of courses: theory only, application only, and theory combined with application. Table 1 shows the number of students indicating each type of class along with an illustrative comment which helps to

explain what the course was like. Of the 34 participants in the present study, one person could not remember what the educational psychology course was like, and ten did not take an educational psychology class. As a result, only the data from the 23 participants taking (and remembering) an educational psychology will be discussed throughout the remainder of the paper.

From the illustrative student comments about the type of course in which they were enrolled, it becomes evident that the majority of courses taught were in line with the foundation model for teaching educational psychology. In each of the 15 descriptions of courses which emphasized theory only, it was stated that the main emphasis of the course was learning, sometimes just memorizing, the key theories of educational psychology with very little emphasis on applying the theories to actual classroom situations. One person seemed to be explaining the foundation metaphor for teaching educational psychology very clearly: "The class was basically used to discuss educational psychology beliefs and theories. There was a lot of memorization. No, it was not useful. There weren't any practical applications."

In the two courses that were application only (both of these descriptions are shown in Table 1), the emphasis was mainly on the trial and error approach to using various teaching strategies which several authors have disparaged (Ellett, 1972; Shuell, 1996). From these descriptions, it becomes apparent that there seems to be a haphazard application of psychological principles with no underlying method or framework for applying teaching strategies. Although application is important, applying principles in such a haphazard way does not allow for the development of any overarching strategies that might be used across situations. This is embodied in the continuation of the second person's statement: "Was it useful once I actually entered the classroom? Only the one piece of advice my teacher left us with--'Do what

Table 1. Types of Educational Psychology Courses

Category	No. of Participants	Illustrative Comment
Theory Only	15	"We mainly studied the famous theorists that are associated with ed. Psych. The main ones that I remember are Pavlov and Bloom." "My course was basically centered around the theories of Gagne, Piaget, and a few other theorists." "The class taught theories with no relation to the classroom and the students."
Application Only	2	"We were given situations and asked to describe what we would do." "The class was doing their student teaching at the time and several times a week after returning to school from student teaching, we would discuss any problems we had encountered in our classrooms that day."
Theory and Application	6	"I received a lot of useful background information...I had to do a case study on a third grade girl which helped me learn how to interpret information." "It was all textbook theory and perfect classroom situations."

works for you.'" In other words, the instructor was telling them to try strategies through trial and error; they were not leaving the class with any specific strategies which might be useful across various situations from day one in the classroom.

In the courses in which theory and application were combined, there seem to be attempts to develop a foundation of knowledge and then to build on this knowledge by actually applying the information to classroom situations. Interestingly, just because a course combines theory with application does not mean that it will automatically be relevant for pre-service teachers once they get into the classroom. For example, in the second illustrative description, the individual talks about applying theory to perfect classroom situations. This person goes on to say that, "Nothing in that class truly helped me deal with the actual classroom situations I encountered as I began to teach." This comment

suggests that application can be more or less relevant, and will be more relevant when it involves more realistic classroom situations and examples.

The next step in the analysis of the data was to examine the usefulness of courses in the three categories. These results are shown in Table 2. None of the theory-only or application-only courses were seen as being useful to teaching practice. Of the combination theory and application courses, 5 of 6 were seen as being useful. However, one of these was not, indicating that it is not just the combination of theory with application that makes a good course. The combination course that was not seen as being useful was the one described above which dealt with perfect classroom situations rather than more realistic classroom situations.

Table 2. Usefulness of Educational Psychology Courses by Type

Category	Described as Useful	Described as Not Useful	Usefulness not Indicated	Total
Theory	0	13	2	15
Application	0	2	0	2
Combination	5	1	0	6

To further inform the design of educational psychology courses, these descriptions were analyzed to determine what factors seem to be related to the usefulness of an educational psychology course to a beginning teacher. These in-service teachers suggest that there are three important factors (shown in Table 3) which make an educational psychology course relevant for pre-service teachers: applications to "real" situations, connections to the classroom, and a sound theoretical background. First, the instructor must help the students apply what they are learning to realistic classroom situations. Second, the pre-service teachers must be connected to the classroom in such a way that they can see educational and psychological principles unfold and they can place the new information into the framework of what

they already know about students in classrooms. Finally, there needs to be a grounding in the theory which suggests an overarching framework with specific strategies for actions within a classroom setting. Due to these three factors which underlie usefulness, theory-only and application-only courses are not sufficient. Pre-service teachers need an integration of theory and

Table 3. Factors Which Contribute to the Usefulness of an Educational Psychology Class

Factors Which are Useful	Illustrative Comments
Applications to "Real" Situations	". . . I had to do a case study on a third grade girl which helped me learn how to interpret information." "Topics included using limits and directives (rather than discipline), which I still use. We explored ways of relating to people and "games" people play. We kept a portfolio of our thoughts about and application of topics discussed."
Connections to the Classroom	"Lots of terms and names which had no meaning because I didn't see a connection . . . hadn't even started working with children." "It was not very useful, because it didn't teach me any skills to use, and I took it long before I ever set foot in the classroom."
A Sound Theoretical Framework	"They were primarily survey courses which presented information on the major theories and theorists in the area of child development. I believe that Piaget's theories have strongly influenced my decisions in the classroom." "I received a lot of useful background knowledge in my undergraduate ed. psych. class. I still use what I learned about Piaget as a basis for my teaching."

application, but the application needs to involve real classroom situations rather than ideal, or "perfect," classrooms. To the extent that these three factors are incorporated into an educational psychology course, the course will be seen as useful once the pre-service teachers have their own classrooms.

It seems that the instructor of an educational psychology course can also have a great impact on the pre-service teachers' perception of the course. In two cases, there were glaring examples of poor teaching by the educational psychology

instructor which limited the usefulness of the course. The first person wrote, " I did not learn much because the professor made the course miserable. I didn't learn anything because the professor sat in front of the class and told us that he didn't want to teach the course and he wasn't supposed to be teaching the course. After that, I really didn't care. I only did enough to pass the course." In a similar vein, the another person wrote, "My teacher was basically interested in showing us how our students might feel. She appeared very unorganized, gave pop non-quizzes, asked for work on assignments she had never really given, etc. She did teach me how not to teach. Other than that, the course was not very helpful."

In an educational psychology course, an instructor is attempting to help students learn effective teaching practices. When the instructor of educational psychology is an ineffective teacher, the pre-service teachers lose an opportunity to broaden their knowledge base and practice skills. However, they also are exposed to a poor model of what good teaching should be. Ineffective teaching by the educational psychology instructor may also destroy the instructor's credibility. In any event, these negative examples provide a very important footnote to the three factors mentioned above: not only must these three factors be built into an educational psychology course, but the instructor must also model effective teaching strategies.

Discussion

The present findings suggest that the current discontent about the relevance of educational psychology courses for pre-service teachers (Anderson et al., 1995; Doyle & Carter, 1996; Shuell, 1996; VanZile-Tamsen, 1997) is mirrored in the reflections of in-service teachers who have taken an educational psychology course. These teachers suggest that the most useful classes are

those that provide theory **and** application to actual classroom settings. In addition, these teachers suggest that there should be some prior experience in a classroom setting in order to serve as a framework for understanding the new content being learned.

These findings call for more authentic activities to be built into the courses which help students apply theory to the classroom setting (Anderson et al., 1995; Shuell, 1996; VanZile-Tamsen, 1997). Not only would students in these classes learn declarative knowledge about classroom learning, but they would learn procedural knowledge of how to apply it (Brown, Collins, & Duguid, 1989). Examples might include the development of lesson plans based on learning theory (Shuell, 1996), the analysis of "rich" cases (Anderson, et al., 1995), the development of classroom rules and consequences for violation of these rules, the design and analysis of assessment methods, such as paper-and-pencil tests and performance assessments, and the list could go on and on. The important point is to allow students to practice those skills that they will need once they are teaching in their own classrooms.

The present findings also suggest that pre-service teachers need to get practical experience in classroom settings early on in their programs. Being familiar with children and classroom settings helps them make the connection between theory and "real life." As a result, college students who indicate that they want to be teachers should get some experience in the schools from the very beginning in either an educational foundations course or a developmental psychology course. Ideally, students in educational psychology courses would also have a field component which would allow them to see the theories and principles in action. From a constructivist approach, this makes sense since we know that people learn new information based on their prior experiences; having prior and/or concurrent classroom experiences would facilitate the learning of new information (Davis & Sumara, 1997; Mayer, 1996).

Educational psychologists need to explore these options for making their courses more relevant for teacher preparation. Educational psychologists are supposed to be experts on teaching and learning and should be leading the way in the reform of teacher preparation programs. Part of this reform must involve increasing the relevance of the educational psychology course for actual teaching practice. In addition, modeling is an extremely important form of learning--pre-service teachers will be more likely to see the educational psychology course as useful and adopt effective teaching practices if they see instructors of educational psychology courses modeling effective teaching strategies.

References

Anderson, L. M., Blumenfeld, P., Pintrich, P. R., Clark, C. M., Marx, R. W., & Peterson, P. (1995). Educational psychology for teachers: Reforming our courses, rethinking our roles. **Educational Psychologist, 30**(3), 143-157.

Brown, J. S., Collins, A., Duguid, P. (1989). Situated cognition and the culture of learning. **Educational Researcher, 18**(1), 32-42.

Davis, B., & Sumara, D. J. (1997). Cognition, complexity, and teacher education. **Harvard Educational Review, 67**, 105-124.

Doyle, W., & Carter, K. (1996). Educational psychology and the education of teachers: A reaction. **Educational Psychologist, 31**, 23-28.

Ellett, C. (Fall, 1972). **A brief overview of research on teacher effectiveness and the relevancy of educational psychology.** Paper presented at Doctoral Seminar, University of Georgia, Athens, GA. (ERIC Document Reproduction Service No. ED 075 478).

Kiewra, K., & Gubbels, P.S. (1997). Are educational psychology courses educationally and psychologically sound? What textbooks and teachers say. **Educational Psychology Review, 9**, 121-149.

Kvale, S. (1994). Ten standard objections to qualitative research interviews. **Journal of Phenomenological Psychology, 25**(2), 147-143.

Miles, M. B., & Huberman, A. M. (1994). **Qualitative data analysis**. Thousand Oaks, CA: Sage Publications.

Shuell, T. J. (1996). The role of educational psychology in the preparation of teachers. **Educational Psychologist, 31**(1), 5-14.

Thorndike, E. L. (1910). The contribution of psychology to education. **Journal of Educational Psychology, 1**, 5-12.

VanZile-Tamsen, C. (1997). Enhancing educational psychology for pre-service teachers. **GATEways to Teacher Education, 10**, 14-24.

Carol VanZile-Tamsen is an Assistant Professor of Educational Psychology in the Counseling and Educational Psychology Department at the State University of West Georgia. She teaches tests and measurement, human growth and development, and educational psychology for pre-service teachers. Her research interests include metacognitive self-regulation, cognitive strategy use, motivation, and self-regulated learning.

Contact Dr. Carol VanZile Tamsen at:
CEP Department
State University of West Georgia
Carrollton, GA 30118
voice: 770.836.4768
fax: 770.836.4645
cvanzile@westga.edu

Teachers' Attitudes Towards Educational Research Courses: Implications for the Teacher-as-Researcher Movement

Anthony J. Onwuegbuzie
Valdosta State University

Abstract

Action research can help to empower teachers. Although most teacher education programs require teachers to enroll in educational research courses, many teachers postpone these courses for as long as possible. Thus, this study assessed teachers' attitudes towards research courses. Participants were 211 inservice teachers enrolled in graduate-level research methodology courses, who were administered an attitudinal survey. Findings revealed that 64% of teachers reported being frightened about taking the research course. The majority (73%) would not have enrolled in this class if it had not been required. Interestingly, 60% of teachers deemed the course to be the most difficult in their programs of study, with approximately one-half indicating that the language of the discipline was confusing (52.9%). Most disturbingly, only 37.4% found research interesting, with only 28.4% reporting that they enjoyed research. These findings suggest that many teachers have negative attitudes towards research, threatening their propensity to join the teacher-as-researcher movement.

The primary goal of the teacher-as-researcher movement is to expand the teacher's role as inquirer about teaching and learning through systematic classroom research (Copper, 1990). The phrase *teacher-as-researcher* refers specifically to an elementary or secondary public/private school teacher who plays an active

role in research conducted in her/his classroom--whether working alone, in conjunction with a professional researcher, or as part of a research team (McIntosh, 1984). The concept of teacher-as-researcher is deeply rooted in action research (Johnson, 1993), which, credited to Lewin (1948), evolved from an attempt to apply the generalities of theory to problems related to the field of social psychology. Corey (1953) and Shumsky (1958) modified Lewin's action research model for the field of education and encouraged teachers to become researchers in their classrooms.

Garner (1996) defines action research as a systematic, reflectic, collaborative process which seeks to plan, to implement, and to evaluate change. More specifically, Patterson and Shannon (1993) describe action research as "inquiry in which practicing teachers try to understand the particular individuals, actions, policies, and events that make up their work environment in order to make professional decisions" (p. 8).

Action research is designed, conducted, and implemented by teachers themselves in order to improve teaching (Johnson, 1993). As such, teacher-researchers take action based on the results of their findings. The research can be formal or informal, short- or long-term, using qualitative or quantitative techniques (Eisenhart & Borko, 1993; Wessinger, 1992).

Action research begins with a problem area being identified by the teacher-researcher. After reflection and discussion, the question of interest is conceptualized and refined. At this point, a plan of action is developed. The plan is then implemented. That is, steps are taken to answer the research question through data collection and analysis (Borgia & Schuler, 1996). Based on the conclusions which emerge from the data, action is taken. The action research process continues with a modification of the original question (i.e., problem redefinition). As such, action research is a cyclical process (Kemmis & McTaggart, 1988).

Action research can be undertaken as collaborative projects involving teams of researchers which include teachers and

university researchers. In any case, a major goal of action research is to enhance the professional development of teachers and administrators, thus helping schools to have a more professional culture. Action research assists teachers in increasing their knowledge and skills in research methodologies, and helps them to be more cognizant of the options and possibilities for change with respect to teaching, learning, and the like (Johnson, 1993). In fact, action research has been conducted for a variety of reasons, including school-based curriculum development, system planning, and policy development (Johnson, 1993).

According to Borgia and Schuler (1996), the benefits of action research include the following: (1) teachers investigate their own practices in original and novel ways; (2) teachers develop a deeper understanding of their students, of themselves, and of their roles in the learning process; (3) teachers are viewed as equal partners in their collaborative teams in deciding how to act upon their research findings; and (4) teachers typically are more excited about and committed to any changes which stem from their action research projects.

McClean (1995) asserts that, through the design and implementation of action research programs, education can be improved to a greater extent than through any other educational innovation which has come to the fore in the last century. Thus, as noted by Lovat and Plotnikoff (1992), it is imperative that as many teachers as possible be exposed to action research methodologies. Consequently, in recent years, most graduate education programs have required teachers to enroll in at least one research methodology course as a part of their degree programs. Unfortunately, underachievement is rife in these courses (Onwuegbuzie, 1997a). In fact, many teachers delay enrolling in these courses for as long as possible, sometimes waiting until the final semester of their degree programs (Onwuegbuzie, 1997b). Yet, little is known about the attitudes towards research of teachers enrolled in graduate-level educational research courses.

This was the purpose of the present study.

Method

Subjects

The sample comprised public school teachers who had enrolled in several sections of a graduate-level research methodology course at a mid-southern university over a three-year period. Of the participants, 97.2% were enrolled in master's degree programs (i.e., M.Ed.), with the remainder enrolled in specialist in education programs (i.e., Ed.S.). Participation was voluntary. In order to participate, students were required to sign an informed consent form. Participants received extra course credit. No student declined to participate. All surveys were coded using student identification numbers in order to maximize confidentiality. The ages of the respondents ranged from 22 to 56 (mean = 32.0, SD = 8.9), with a mean grade point average of 3.67 (SD = 0.38). The majority of participants were female (82.0%).

At the university in which the study took place, all college of education graduate students were required to take this course. According to the university graduate handbook, the course involved the "application of scientific method to educational research, including nature of research problems in education, theory of research, experimental design, techniques in data gathering, the interpretation of results, research reporting, and bibliographical techniques." On a weekly basis, the teachers were assigned readings from the course textbook as well as quantitative and qualitative research articles from a variety of professional journals. The major course requirements involved a written critical evaluation of a published research report (article critique) and preparation of a research proposal. The major goal of the article critique was to allow teachers to practice evaluating published research articles utilizing principles of the scientific method. With respect to research proposals, the goal was to allow

teachers the opportunity to practice the decision-making skills required for planning an original research study. Research proposals had to be unique and realistic, to have educational significance, and to extend the knowledge base.

Instruments and Procedure

Participants were administered the Attitude Towards Research Scale (ATRS), at approximately the midpoint of the course, just prior to the students' midterm examination--since this is typically a time at which levels of anxiety reach their peak (Onwuegbuzie, 1997b). The ATRS, which was developed by the author, is a 21-item, 5-point, Likert-format instrument which assesses an individual's attitudes towards research methodology courses and the field of research in general. The responses for each item range from *strongly disagree* to *strongly agree*. A combination of positively- and negatively-worded items is included in order to increase the validity of the ATRS.

A factor analysis revealed that the ATRS has two subscales: a 15-item subscale entitled, Attitude Towards the Field of Research (FIELD) and a 6-item subscale entitled, Attitude Towards the Research Methodology Course (COURSE). Coefficient alpha reliabilities of .83 and .60 were reported for the FIELD and COURSE subscales, respectively. Sample items from the FIELD subscale are as follow: "Research is a challenging and stimulating discipline"; and "Knowledge of research methods can be applied in everyday life." Sample item from the COURSE subscale are as follows: "Taking a course in research methods frightens me"; and "Research methods is the most difficult course in my program."

Results and Discussion

For the subsequent analyses, the *disagree* and *strongly disagree* responses were combined, as were the *agree* and *strongly agree* categories. This reduced the number of response categories which were analyzed from five to three (i.e., *disagree to some extent*, *neutral*, *agree to some extent*). What follows is a descriptive summary of how teachers responded to each item on the ATRS.

FIELD Items

Approximately one-third of teachers (35.1%) reported that they did not find the field of research to be interesting. Indeed, only 37.4% deemed research to be interesting. Although disturbing, this finding is consistent with Deck, Cecil, and Cobia (1990), who found that school counselors have little interest in research and a lack of understanding of the relevance of research to their profession. Similarly, only 27.5% of teachers found the field of research to be challenging and stimulating. This finding also is somewhat disturbing, bearing in mind that most of the theories used in the field of education (e.g., learning theories, discipline theories) have emerged from research studies. Indeed, in the present study, only 39.8% of teachers rated research as being relevant to their field, while only 33.6% deemed research methodology to be applicable to their daily lives. Thus, it appears that many teachers do not connect educational theories with research. Consequently, instructors of research methodology courses should attempt to make this connection more apparent perhaps by describing the research origins of some of the most widely used educational theories.

Surprisingly, as many as 38.9% of teachers did not regard research skills as being important for graduate students. However, this finding may have arisen because, at the institution in which this study took place, only students enrolled in Ed.S. programs were required to undertake theses. In addition, since graduate advisors at that institution, in general, did not encourage master's students to conduct theses, no master's-level teachers did so. Thus, it appears that teachers were not given the opportunity to

apply fully the knowledge and skills acquired in research methodology courses. As such, the relevance of research to their programs was not emphasized by graduate instructors and advisors. Indeed, only 39.0% of teachers felt that acquiring research skills was an important part of their professional development. It is perhaps not surprising then that only 28.4% of teachers enjoyed undertaking research, and 40.0% of teachers were determined to become competent researchers.

More than one-half of teachers (52.9%) regarded the language used in the field of research as confusing. A similar proportion (48.3%) deemed research textbooks to be difficult to understand. The latter finding is consistent with the finding of Onwuegbuzie (1997a) that the complex and laconic nature of many educational research textbooks is an antecedent of anxiety in research methodology courses.

Encouragingly, only 7.6% of teachers felt that they did not have the aptitude to master the necessary methodology to undertake research, while only 11.4% reported that they would never be good researchers. Unfortunately, these findings are tempered by the fact that only 24.6% of teachers were confident in their ability to interpret research findings, 37.6% felt that they had a good command of the English language, and 35.8% deemed themselves competent writers. It is likely that this lack of confidence explains why so many teachers are anxious about research. Indeed, Onwuegbuzie (1997a) found that students with high levels of interpretation anxiety and composition anxiety tend to have lower levels of achievement in research methodology courses.

COURSE Items

Disturbingly, the majority of teachers (73.0%) would not have taken the research methodology course if it had not have been required for completion of their graduate degree programs. Indeed, 63.0% had been frightened about taking this course. It is

likely that this fear and reluctance may have stemmed, in part, from the pessimistic reports provided by some students who previously had taken this class. Indeed, 53.6% of teachers knew many students who had reported negative experiences in research methodology courses. This suggests that many teachers enroll in research methodology courses with preconceived negative attitudes, which influence their subsequent affective states, and possibly their levels of performance in these courses.

Interestingly, only 9.0% of teachers believed that research methodology courses should be taken as late as possible in their programs. However, their beliefs appear to contradict their behaviors, since many teachers delay enrolling in these courses for as long as possible (Onwuegbuzie, 1997b). Finally, 60.0% of teachers found the research methodology course to be the most difficult in their programs of study, with 44.5% equating taking a research methodology course to learning a foreign language.

Combining FIELD and COURSE Items

In order to explore further teachers' attitudes towards research, a series of chi-square analyses was undertaken. Specifically, Fisher's exact tests (Menta & Patel, 1983) were used to conduct tests of independence, that is, to determine whether any of the items are related in some way. Overall, 22 tests of independence were undertaken. In order to control for Type I error, a Bonferroni adjustment was utilized, equating the nominal alpha level to .0023 (.05/22 = .0023) for each test of independence. Thus, before declaring a relationship between the responses on any two items to be significant, the probability level (i.e., *p*-value) had to be less than .0023.

Of the 22 tests of independence, only 5 were not statistically significant. Specifically, no relationship was found between (1) the proportion of teachers who were frightened about taking the research methodology course and the proportion who found research interesting; (2) the proportion of teachers who were

frightened about taking the research methodology course and the proportion who were determined to become competent researchers; (3) the proportion of teachers who enjoyed undertaking research and the proportion who would have enrolled in the research methodology course if it had not been required; (4) the proportion of teachers who deemed the field of research to be interesting and the proportion who would have enrolled in the research methodology course if it had not been required; and (5) the proportion of teachers who felt that they had a good command of the English language and the proportion who would have enrolled in the research methodology course if it had not been required.

On the other hand, of teachers who were frightened about taking the course, a greater proportion believed that research methodology courses were not relevant for their field (42.2%) than did not (29.6%), perceived that they had a good command of the English language (44.4%) than did not (26.9%), deemed the course to be the most difficult in their programs of study (70.9%) than did not (8.2%), felt that the language used in the field of research was confusing (65.2%) than did not (4.4%), knew many individuals who had reported a negative experience in previous research methodology courses (62.2%) than did not (14.1%), did not enjoy undertaking research (40.0%) than did (27.4%), and would not have enrolled in the course if it had not been required (80.7%) than would have enrolled in the course (7.4%). Although causation cannot be inferred from correlational relationships, these findings suggest the possibility that the degree to which teachers are afraid or anxious about enrolling in research methodology courses is, in part, a function of perceived importance of research methodology courses, perceived writing ability, perceived difficulty of the course, level of comfort with terminology and notations used in the discipline, level of contact with individuals who report having negative experiences in research methodology classes, and attitude towards conducting

research. Future research should seek to determine the causal link among these variables. In any case, as stated earlier, instructors should attempt to make clear the importance of research, to provide positive experiences for teachers in educational research classes, and to minimize the amount of research jargon used.

Of teachers who did not perceive research skills as being important for graduate school, a greater proportion (53.7%) were afraid of taking the research methodology course than were not (22.0%). Again, bridging the gap between theory and practice in research methodology courses could help to reduce levels of anxiety. Also, of teachers who did not perceive themselves as competent writers, a greater proportion were afraid of taking the research methodology course (35.9%) than were not (26.4%). Thus, providing examples of previous students' writing in the course may help to prevent current teachers from having unrealistic standards with respect to the research writing process.

Not surprisingly, of teachers who found the language used in the field of research confusing, many more found research methodology textbooks difficult to understand (74.6%) than did not (6.4%), suggesting that research methodology instructors should choose their course textbooks very carefully, paying particular attention to the level of language used. Also, as expected, more teachers who did not enjoy undertaking research did not find research interesting (48.7%) than did (23.0%).

Of teachers who did not rate research as interesting, a greater proportion were not determined to become competent researchers (64.4%) than were (12.3%), felt that they did not possess a good command of the English language (53.5%) than felt that they did (22.5%), and reported that they were not competent writers (49.3%) than reported that they were (19.7%). The latter two findings highlight the potential debilitative role of writing anxiety in research methodology courses.

Finally, of teachers who would not have taken the research methodology course if it had been an elective, a greater

proportion knew many individuals who had reported a negative experience in previous research methodology courses (55.8%) than did not know many persons (20.1%). Furthermore, of those who did not intend to become competent researchers, more than four times as many teachers would not have taken the course if it had not been required (71.8%) than would have enrolled (16.9%). Similarly, of those who did not deem themselves to be competent writers, more teachers would not have taken the course if it had been an elective (67.9%) than would have done so (20.8%). In order to counteract the adverse effects of individuals who report negative experiences in prior research methodology classes, instructors should consider inviting teachers with positive experiences in these courses to serve as guest speakers. Indeed, the author has found this to be an effective way, not only of reducing levels of anxiety among students, but also of promoting learning networks and peer tutoring opportunities. Graduate advisors can play an especially important role here in attempting to instill positive attitudes towards research among teachers, both prior to and during enrollment in educational research courses.

Conclusion

Overall, the findings from this study are somewhat disturbing, for it appears that too many teachers have negative attitudes towards research. Unfortunately, some of their attitudes may be justified. Thus, the onus is on research methodology instructors and graduate advisors to find ways to improve the attitudes of teachers towards both educational research courses and the field of research in general. Otherwise, the teacher-as-researcher movement will be undermined.

References

Borgia, E.T., & Schuler, D. (1996). **Action research in early childhood education.** (ERIC Document Reproduction Service No. ED 401 047)

Copper, L.R. (1990, April). **Teachers as researchers: Attitudes, opinions and perceptions**. Paper presented at the annual meeting of the American Educational Research Association, Boston, MA. (ERIC Document Reproduction Service No. ED 322 130)

Corey, S.M. (1953). **Action research to improve school practices**. New York: Teachers College Press.

Deck, M.D., Cecil, J.H., & Cobia, D.C. (1990). School counselor research as perceived by American School Counselor Association leaders: Implications for the profession. **Elementary School Guidance and Counseling, 25**, 12-20.

Eisenhart, M., & Borko, H. (1993). **Designing classroom research: Themes, issues, and struggles**. Needham, MA: Allyn & Bacon.

Garner, B. (1996, May). **Using action research: Challenges and opportunities for the beginner**. Paper presented at the Greater St. Louis Sixth Action Research Collaborative Conference, St. Louis, MO.

Johnson, B. (1993). Teacher-as-researcher. **ERIC Digest**. (ERIC Document Reproduction Service No. ED 355 205)

Kemmis, R., & McTaggart, R. (1988). **The action research planner**. Deakin University: Deakin University Press.

Lewin, K. (1948). **Resolving social conflicts**. New York: Harper & Row.

Lovat, T., & Plotnikoff, R. (1992). Towards autonomous learning: Evaluating the integrated research component in teacher education. **South Pacific Journal of Teacher Education, 20**, 49-54.

McClean, J.E. (1995). **Improving education through action**

research: A guide for administrators and teachers. The Practicing Administrator's Leadership Series. Roadmaps to Success. Thousand Oaks, California: Corwin Press. (ERIC Document Reproduction Service No. ED 380 884)

McIntosh, M.E. (1984). **The efficacy of teacher as researcher: A testimonial**. (ERIC Document Reproduction Services No. ED 278 015)

Menta, C.R., & Patel, N.R. (1983). A network algorithm for performing Fisher's exact test in *r* x *c* contingency tables. **Journal of the American Statistical Association, 78**, 427-434.

Onwuegbuzie, A.J. (1997a). Writing a research proposal: The role of library anxiety, statistics anxiety, and composition anxiety. **Library & Information Science Research, 19**, 5-33.

Onwuegbuzie, A.J. (1997b). The teacher as researcher: The relationship between enrollment time and achievement in a research methodology course. **Reflection and Research, 3**(1)[On-Line]. Available: http://www.soe.gonzaga.edu/rr/v3n1/tony.html.

Patterson, L., & Shannon, P. (1993). Reflection, inquiry, action. In L. Patterson, C.M. Santa, K. Short, & K. Smith (Eds.), **Teachers are researchers: Reflection and action**, pp. 7-11. Newark, DE: International Reading Association. (ERIC Document Reproduction Service No. ED 356 452)

Shumsky, (1958). **The action research way of learning**. New York, NY: Teachers College Press, Columbia University.

Wessinger, K.M. (1992). Relevance or rigor--A case for teacher as researcher. **Journal of Physical Education, Recreation, and Dance, 63**(9), 17-21.

Anthony J. Onwuegbuzie is Assistant Professor in the Department of Educational Leadership at Valdosta State University. He earned his Ph.D. in Educational Research and two of his three master's degrees (M.S. in statistics and M.Ed. in Testing and Measurement) at the University of South Carolina,

Columbia. Also, he has earned a postgraduate diploma in statistics at the University College London, and a postgraduate certificate in education (P.G.C.E.) at the University of London Institute of Education. Although early in his academic career, he is author of more than 30 published research articles, with topics primarily involving disadvantaged and under-served populations such as minorities, learning disabled students, and juvenile delinquents. His research interests also include anxiety as it affects elementary, secondary, and post-secondary students, including general anxiety, test anxiety, mathematics anxiety, statistics anxiety, library anxiety, and foreign language anxiety.

Contact Dr. Anthony Onwuegbuzie at:
Department of Educational Leadership
College of Education
Valdosta State University
Valdosta, Georgia, 31698
voice: 912.333.5653
fax 912.247.8326
tonwuegb@valdosta.edu

GATEways to Teacher Education

GATEways to Teacher Education is a refereed journal with national representation on its editorial review board published by the Georgia Association of Teacher Educators. Each issue is nonthematic. The journal, published annually in October, is devoted to the discussion of theory, practice, research, and issues related to teacher education, including teaching and learning, induction, in-service education, and pre-service education. Articles may deal with local, state, or national activities or issues. Views expressed in the articles are not necessarily those of the editor or GATE. The cost of a copy of the journal is $6.00.

Criteria for submitting a manuscript:
Manuscripts must be postmarked by the April 1st preceding the October of publication

- APA style (fourth edition)
- not more than 15 pages, double-spaced
- four copies of the manuscript
- clipped, not stapled
- author's name and affiliation on the title page only
- autobiographical sketches of the authors (three to five sentences each) on one separate page
- complete title and abstract (150 word maximum) on the first page of text
- running head and page number on subsequent pages of the manuscript
- 3 x 5 index card with complete name, postal address, email address, and telephone and fax numbers of the contact person and the title of the manuscript
- [an electronic file copy of the manuscript in MS Word or compatible software for Windows 95 (or 3.1) will be needed after acceptance for publication]

Submit manuscripts to:
Jackie Anglin, Editor
***GATEways* to Teacher Education**
Berry College
P.O. Box 206
Mount Berry, GA 30149-0206
706.236.1717 (voice) 706.238.7827 (fax)
janglin@berry.edu