Using Action Research Methodology to Unite Theory and Practice

Sandra A. Deemer

The author describes an action research project given to masters-level preservice teachers in her educational psychology classes to help them connect the theories they are learning with educational problems they have observed or experienced. Students' responses on a six-item survey indicated that they valued the better understanding of how knowledge in educational psychology can serve as a foundation for solving problems in the classroom and the experience with the action research process that they gained from this project.

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Courses in educational psychology typically contain readings and discussions that are centered on pivotal research studies in the field. Whether studies relate to the foundational work of key theorists in our field (e.g., Piaget) or recent examinations of current issues in education (e.g., studies about achievement motivation and high stakes testing), these studies help us analyze classroom situations. Yet, many preservice teachers fail to understand the importance of learning about, and conducting, educational research. In fact, many fail even to see the link between being a critical consumer of educational research and developing into an outstanding teacher (Sowell, 2001). In order to develop these skills, teacher candidates need to be actively involved in an authentic process in which they can critically analyze and utilize research in educational psychology.

Action research methodology is an authentic research process that is typically viewed as a tool for inservice teachers to understand and respond to situations in their classrooms (Mills, 2000). The action research process differs somewhat from the traditional scientific research process in that it evolves from an educator's struggle with a very particular issue in the classroom and the main focus of the research is on solving this particular, local problem. For example, Capobianco and Lehman (2006) utilized action research to resolve the struggle they were having with involving all students in discussions during science classes. In addition to drawing on previous academic research to understand and respond to this problem, they discussed how they also gained information about solving this problem from conversations with colleagues. Within the action research methodology, this type of local knowledge, often so useful to educators, is considered just as valuable as knowledge derived from large-scale academic research. Instead of a tension between theory and practice, in action research the two are united and provide an impetus for discovering solutions to authentic classroom problems. According to Shuell (1996), relieving this tension is necessary in the field of educational psychology and reflects the reality of how teachers actually practice in the classroom.

Clearly, action research is a process that can aid current teachers in responding to dilemmas in their classroom, but the students in many educational psychology courses not yet certified and are not yet teaching in their own classrooms. At Millersville University, I have found that the same methodology can be adapted to both develop preservice teacher's research-related skills and aid them in uniting theory and practice. Even though they are not yet teaching, allowing these students to draw on their own previous classroom experiences permits the authenticity of the problem needed to begin the action research process to be maintained. For example, a student may recall being anxious when exposed to timed multiplication tests during her elementary years. As an aspiring elementary teacher, she could use action research methodology to investigate the educational soundness of this approach and possible alternatives to teaching multiplication skills during the elementary years.

DESCRIPTION OF ACTION RESEARCH ASSIGNMENT

The action research methodology described by Mills (2000) represents an approach that is most amenable to current teachers. As mentioned above, this methodology needs to be adapted so that preservice teaching students can benefit from the approach. The first step in this process is having students identify an educational problem they have observed in a classroom or experienced themselves as a student. Students can also identify an educational issue that is being experienced by a child that they know personally; this could include a child of their own. Second, students consult class

readings and seek out additional research in educational psychology in order to understand the context and background of their chosen problem. This same research base can serve as a source of potential solutions to the problem. Third, students collect additional information regarding possible solutions to the problem from one or more individuals who have experience with, or expertise related to, the problem. Students can gain this information from a variety of sources (e.g., experienced teachers, parents, other students, administrators) through an interview, survey, or observation. Finally, students summarize and analyze the potential ideas for action that they gained from the research in educational psychology and their informant(s). After examining the validity, feasibility, and possible "side effects" of these potential solutions, students recommend the "best" action to take and then discuss how the action would be expected to affect the student, teacher, and classroom context if it were taken, based on the knowledge they have gathered.

In addition to completing a written paper, which can be done individually or collaboratively, students also share their action research at the end of the semester in a formal presentation and an informal question and answer session with their classmates. This sharing is invaluable in further validating the usefulness of educational psychology research in understanding educational contexts and in offering solutions for educational problems (Sternberg & Grigorenko, 2004). The presentation provides another forum for students to convey their knowledge about a particular topic and their understanding of the action research process. Students receive confidential written feedback from their classmates following the presentation; this aspect keeps all students involved in this important sharing and learning process.

ASSESSING THE EFFECTIVENESS OF THE ACTION RESEARCH ASSIGNMENT

In order to assess the impact that this action research project had on students, I gave a six-item survey to all students who took Advanced Educational Psychology at Millersville University in the fall of 2006 and spring of 2007. Participants included 30 students who were enrolled in this masters-level Educational Psychology course in the fall of 2006 (n=16) and spring of 2007 (n=14); both males and females, between 21 and 55 years of age were included in the sample. The classes included students receiving post-baccalaureate certification in elementary and secondary education and students obtaining masters' degrees in various areas of elementary, secondary and special education.

This self-designed survey included the following items:

1. *What was the topic of your action research project?*
2. *Did you work individually or in a group on this project? How would you evaluate the experience?*
3. *Describe what you learned in regard to the process of action research.*
4. *Describe what you learned in regard to the key ideas, concepts, and theories in educational psychology.*
5. *How did the action research presentations (yours and your classmates') help you learn in this course?*
6. *How could this project be improved? Consider both the written and oral part of this project.*

Although students' responses to the first two questions did not directly address the effectiveness of the action research assignment, they clearly showed the variety in the topics selected for this project and the different ways in which students chose to complete it. This variety (e.g., *Motivating non-dominant students to learn secondary social studies in an urban setting* and *Integration of core subject content into the visual arts curriculum*) exposed the students to topics that I would not necessarily discuss throughout the semester. Thus, by hearing students' presentations about their classmates' action research, students received a much more comprehensive course that if I alone had dictated the topics for all of our weekly class meetings. In addition, 25 out of 30 students reported favorable experiences working within small groups, partner arrangements, or individually. For example, one student who worked in a group claimed it was, "*extremely valuable to integrate peers' ideas, experiences, writing/learning styles*," while another student who worked individually said working alone, "*helped me to understand the process of exploring educational issues*." It appears that the elements of choice in regard to the topic for the action research and the way in which it is completed (e.g., group, partner, or individual) actually fostered learning about key topics in educational psychology such as learning styles and cooperative learning.

Their responses to the third question indicated that students did gain an understanding about the process of action research. Specifically, the majority (26 of 30) of the students indicated that the action research methodology introduced them to a valuable problem-solving process of which they had not been aware, prior to taking this course. One

student stated, "*You choose a specific topic and take time to really think about this topic that will impact your teaching career. Researching for articles is important and necessary for a contemplative practitioner*." Students also indicated that uniting academic research with information from a live informant fostered cooperation among educators that aided them in suggesting meaningful strategies to address their issue of concern.

In regard to the fourth question, which most clearly asked about students' learning related to key ideas, concepts, and theories in educational psychology, all students listed topics that were highlighted in class readings and discussions. These included references to theories of development (Piaget, Vygotsky, Gilligan, Kohlberg, Erikson), theories of motivation (Ames' TARGET framework, goal theory, Maslow's hierarchy of needs) and paradigms of assessment (assessment as inquiry, assessment as measurement). The action research project seemed to help students articulate their understanding of educational psychology in meaningful ways as they applied these key psychological ideas to solving a problem of personal interest to them. For example, one student described how she utilized learning theories in her classroom as she adapted her lessons to reflect multiple intelligence theory.

Students' responses to the fifth question, about the action research presentation, indicated that they learned from both creating and presenting their work, and listening and responding to their classmates' presentations. One student stated, "*I got to hear different ideas, sources, and information used for the action research papers*." Several (15 out of 30) others indicated that the presentations further allowed them to unite theory and practice. For example, a student reported that, "*The presentation gave an opportunity to draw linkages between theories discussed in class and research – these ideas clicked*."

Students' responses to the last question on the survey revealed some aspects of the assignment that could be improved. Ten of 30 students said they would have liked more time to present their work while 10 of 30 students also would have preferred more direction in choosing topics for the project. Ten of 30 students indicated that no changes were necessary and that they appreciated the class time devoted to working on this project and the review of their written draft of the action research paper.

Although the sample of students used to assess the effectiveness of this assignment was quite small, these findings suggest that action research methodology does offer one way to aid students in uniting theory and practice. By situating students' thinking within an authentic situation, as called for by Anderson and her colleagues (1995), this assignment helps students develop a deep and generative understanding of how knowledge in educational psychology can serve as a foundation for solving problems in the classroom. In addition, it gives students an appreciation of, and experience with, a research process that they can use as future practitioners.

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Sandra Deemer is an Associate Professor in the Department of Educational Foundations at Millersville University. She currently teaches both undergraduate and graduate-level courses in educational psychology and research. Her scholarship focuses on how to utilize motivational theory to create engaging learning environments in both K-12 and college-level classrooms.