This paper describes a course for education majors, Educational Inquiry, in which students completed action research investigations in their public school classrooms. The primary responsibility of designing, implementing, and sharing study results belonged to the college students rather than their cooperating teachers. Action research based on new knowledge developed through reflection and inquiry was the ultimate goal. Students were challenged to reflect on their 3 years of previous classroom experience with their mentor teachers, then seek understanding of specific individuals, actions, policies, or events in their classroom interactions, emphasizing problematic situations that caused uncertainty. They received training during their Educational Inquiry class on how to conduct disciplined inquiry (interviewing, transcribing interviews, analyzing data, and sharing progress). After reflecting, students made contacts in the schools and conducted the research. At the end of the semester, students wrote their projects up in a professional format and gave formal presentations to the university faculty who asked questions after their presentations. Faculty were impressed with the quality of the research. Preservice students were capable of complex action research in order to gain greater understanding of educational practice. (Contains 22 references.) (SM)
Action Research for Undergraduates: Solving Problems in Preservice Teaching

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Statement of the Problem:

How can teacher educators ensure that new teachers enter the profession with the ability to be critical, reflective thinkers who make informed decisions about their own classroom practice? This session describes a semester course for education majors, *Educational Inquiry*, wherein students completed their own action research investigations. Two presenters, having taught two sections of this course with different groups of pre-service students, will share their experiences in order to address the larger concern of helping new teachers become informed decision makers in their own classrooms. In this course, preservice teachers learned action research strategies, posed relevant questions, conducted a classroom study, analyzed, and shared their results.

Background and Literature Review:

As preservice teachers, Craig and Jeff wanted to keep animals in their primary classrooms, yet they wondered about the effects of introducing an animal to second graders. What were the benefits and detriments of housing an animal in a primary classroom? The classroom teachers with whom they worked had usually kept animals, but had not thought about the effects on student learning or behaviors. Suzy was curious about using technology in teaching geography skills to fourth and fifth graders. Her mentor teacher was interested in improving skill levels, as well as, implementing new technology to teach geographic literacy. Amanda, along with her team of five peers, compared three classroom desk arrangements in a systematic study of rows, pods, and U-shape designs. With the help of the classroom teacher, who was willing to change his desk configurations each week, the team of preservice students monitored student to student social interaction of fourth graders, teacher responsiveness to students, and student achievement throughout the semester.

Students at a large Midwestern state university have been interacting with mentor teachers in the regular classroom for three years before initiating their own action research projects. Facilitating preservice students in the development of an action research study in the course of one semester was, indeed, a challenge. Based on a rich field-based experience beginning as a cohort of sophomores, each group of students, like the four cohort groups preceding them, had been working together as team members in their core education courses as elementary and secondary education majors. Therefore, as a student cohort, they had functioned as collaborative group members. When given a chance to work independently, students such as Suzy chose to work alone, in order to continue her research for her university Honors Research Project the following semester. Other students, such as Amanda, needed
to work in a team of five students, in order to accommodate their college course loads and work schedules. These students shared a common desire to conduct their research in the same building with the same mentor teacher. In the case of Craig and Jeff, their mutual concern about having “pets” in the classroom drew them to participate in a shared action research project.

Once the cooperating school district granted permission for the invitation for conducting research, the preservice students were required to contact classroom teachers with their requests for a collaborative action research project. Partnerships with the classroom teacher were not arranged by the professor. The primary responsibility of the designing, implementing, and sharing the results of the study rested with the college students, not the classroom teachers.

Action based on new knowledge developed through reflection and inquiry was the ultimate goal of this course (Patterson, Santa, Short, Smith, 1993). Students were challenged to reflect on their three years of previous classroom experiences with their mentor teachers. They were invited to seek understanding of particular individuals, actions, policies, and events in their classroom interactions over those previous years. They were asked to think of problematic situations that were puzzling, troubling, or that caused uncertainty (Schon, 1983). With encouragement, they began to pose and record questions about educational practice. (Woods, 1986; Zeichner, & Liston, 1996). All students were not initially enthralled about metacognitive tasks requiring reflective thinking. One student wrote the following excerpt in her reflective journal.

“I still have no clue as to my research project. I have been pondering a wide variety of possibilities. In a way I would like to study children of divorced parents, but I have not found an acceptable way of doing that yet. I don’t want to fall into the trap of designing a complex study that cannot realistically be completed within the allotted time span.”

Another student wrote:

“I sat for hours brainstorming what I might possibly do for a research project this semester. I struggled with the question of what to do. I gave it a lot of thought. I wanted to do a project that I was intrinsically motivated to complete. Finally, I came up with an idea. I will design a research project to study the effect of an animal in the classroom!”

Traditionally, preservice students view the relationship of theory and practice as a hierarchical and dependent relationship (Patterson, Santa, Short, Smith, 1993). That is to say, they believe fully-formed theory evolves from scientific research published in journal articles or accumulated in textbooks. Their beliefs from their field experiences support the notion that theory to improve classroom practice is mediated through curriculum designers or experts who speak at inservice meetings. That they could act as thinkers, learners, practitioners, and leaders is a novel concept for education majors. Not all students embraced this new role with equal enthusiasm.

“Wow! This class is going to be a lot more work than what I had originally thought! I thought that all we were going to be doing is the research report and that was it!! I understand that there should be “check points” throughout the semester to make sure that everything was going okay, but I never expected this! Oh, well, maybe it will help in the long run. Hopefully I will learn more than just about my research topic.”
Another student wrote:

“This course has such a big name, ‘Educational Inquiry.’ I didn’t know what it entailed, but I did know that it sounded professional. All of my professors have stressed how important professionalism is, and I have tried to behave professionally, but I still have always still felt like just a student. I don’t know if I can handle this class.”

Eventually the students became comfortable with “wondering” and “posing questions” about educational practice. Learning to view the classrooms they had taught in with a different lens required overcoming feelings of inadequacy and tension. They learned to “try to love the questions themselves” (Hubbard & Power, 1993, p. 2).

Once students made initial contacts in the schools, they had intense training during their educational inquiry class to capture the essence of disciplined inquiry in the context of focused efforts to improve the quality of classroom teaching and learning (Calhoun, 1994). Distinguishing qualitative and quantitative methodology (Bogdan & Biklen, 1998) was important as students constructed data collecting instruments appropriate to the nature of their inquiry. The learning curve was steep as students learned skills and techniques for accomplishing the daunting task of designing and implementing their own action research study (Daiker & Morenberg, 1989; Hitchcock, & Hughes, 1991; Delamont, 1992; Eisenhart & Borko, 1993; Hubbard & Power, 1993; Springer, 1996).

Each week in class, students practiced interviewing skills (Stringer, 1996), learned to transcribe recorded interviews, analyzed data using codes and themes, and shared progress of each step of their action research projects. Statistical software packages were presented in class to calculate descriptive statistics or inferential statistics. Some students had worked in the university educational research lab and willingly demonstrated several functions using SPSS and Survey Pro analytical software.

Understanding the ethics of research involved asking for permission before conducting any kind of study in the public schools. Students prepared parental consent forms, used alias names to protect the identity of the students and teachers with whom they worked, and allowed withdrawal from the study if any participants so requested.

**Contribution to new knowledge:**

At the end of the semester, all students completed their action research projects by writing them in professional format (Wolcott, 1990) and by giving formal 20 minute presentations to the university faculty who asked questions of the students after each session. Faculty response was phenomenal. Students were applauded for the quality of their action research studies, the professional manner in which they shared their findings, and their defense of fielded questions.

Overwhelmingly, results from the Educational Inquiry course supported that preservice students are capable of complex activity such as action research in order to gain richer understandings of educational practice. Each of the students successfully completed the cycle of an initial question to the formulation of data collection, analysis, and conclusion resulting in still more thoughts and actions in continual need of revision (Noffke & Stevenson, 1995).
Conclusions:

As a result of designing and instructing this educational inquiry class, my professional recommendations include providing more opportunities for preservice students to view themselves as intellectually capable and practically responsible for posing questions and solving problems as practitioners. The action research process does not end, as with traditional notions of research, rather it facilitates the ongoing process of identifying educational needs and issues, which, in turn evolve into defensible, responsible plans of action. Preservice teachers need to define themselves as thinkers, learners, practitioners, and leaders in the field of education.

Heidi summarizes her action research experience as follows.

"When I found out I had to take a research class, I must say I was kind of upset. Then, shortly before school started, I was on the phone with my 94-year-old grandma explaining to her about this research class. She was a former school teacher, so she always enjoys hearing about the classes I am taking. She helped me realize why I am taking this class. She explained to me that when I am in my first full time position in a classroom I will understand that college is not about getting good grades, it is about learning how to find what you need to know. That is what this class taught me. I learned how to find what I can’t find in any book. She also helped me realize that this class is perfect because it ties everything together. We have spent three years learning other peoples’ theories, methods, and practices and now we are learning how to challenge these theories and create our own methods and practices. I now view this class as maybe even more ‘practical’ than many of the other required classes I have taken. This is because it allows me to learn the skills of inquiry that will help me continually become a better teacher."

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