

Collaborative Action Research Projects: Enhancing Preservice Teacher Development in Professional Development Schools

By Tracy C. Rock & Barbara B. Levin

The Holmes Group (1990) report calls for Professional Development School (PDS) faculty to be engaged in thoughtful inquiry as they work together as partners with preservice teachers to encourage and promote reflection and research on practice. The report states:

Schools that prepare new teachers must do something more. From the time student teachers first begin seriously to hone their skills and to assume their professional attitudes, the habits of reflecting, questioning, and trying out and evaluating new ways of teaching—by themselves and with colleagues—should become embedded in their professional identity. (Holmes Group, 1990, p.55)

As teacher educators and university-based supervisors working to develop PDS settings, we are interested in engaging both preservice teachers and on-site teacher educators (commonly known as cooperating teachers) in professional activities that develop skills of inquiry, reflection, problem solv-

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ing, and collaboration. Our goal is that the development of these skills will affect the way in which both preservice teachers and on-site teacher educators think about their roles as teachers and influence how they participate in the teaching and learning process. Encouraging best practice means encouraging reflection about teaching. Schon (1983) refers to reflection in action and reflection on action as avenues for continuous improvement of instruction.

Educational researchers have found that the action research process effectively promotes skills of inquiry, reflection, problem solving, and action (Burnaford, 1999; Casanova, 1989; Herndon, 1992; McCutcheon, 1987; Rosaen & Schram, 1997). Action research is used in many teacher education programs to promote skills of inquiry and reflection in teachers (Arnold, 1993; Darling-Hammond, 1996; Friesen, 1995; Fueyo & Neves, 1995; Gore & Zeichner, 1991; Herndon, 1992; Lomax, 1995). Teacher educators who are involved in doing action research with pre-service and/or inservice teachers find that teachers become more reflective, critical, and analytical about their own teaching behaviors in the classroom (Cardelle-Elawar, 1993; Keating, Rosario, Diaz-Greenberg, Baldwin, and Thousand, 1998; Lederman, & Niess, 1997; Schnorr & Painter, 1999). Some teacher educators believe if they train teachers to use an inquiry process that requires ongoing reflection and critical analyses, then the teachers will be more likely to continue in this direction throughout their careers (Arnold, 1993).

Teacher action research is defined by Lytle and Cochran-Smith (1990) as “systematic, intentional inquiry by teachers” (p.53). Action research is also referred to as research that teachers do to investigate their own professional practice in attempts to understand and improve the nature and specifics of their work and to develop a stronger voice when communicating about it (Ogberg & McCutcheon, 1987). In this study teacher action research is defined as systematic inquiry by teachers with the goal of improving their teaching practices.

Collaboration in this study involved on-site teacher educators and preservice teacher pairs inquiring together systematically to improve their practices during a semester-long internship prior to student teaching. The action research projects undertaken by the participants in this study involved five collaborative steps: (a) identification of a question to be researched, (b) formation of a strategic plan of action in which to answer the question, (c) collection of data in various forms to study the effects of the strategic action plan, (d) reflection upon the results of the strategic action plan to make sense of the processes, problems, issues, and constraints, and (e) creation of new action steps to be taken based on what was learned. Although action research often leads to several cycles of inquiry, one complete action research cycle undertaken by each pair of teachers bounded this research.

Our purpose is to describe how engagement in collaborative action research projects affected the professional development of five preservice teachers, each working with their on-site teacher educator (OSTE) mentor, during an internship in PDS sites. These projects were conducted during the first semester of a year-long

placement prior to student teaching. There is much written about the action research process and its applicability to classroom settings; however, the present project is significant because there are few empirical studies that focus on how the process of collaborative action research affects the professional development of preservice teachers (Zeichner & Klehr, 1999). This paper focuses on what the preservice teachers learned from engaging in collaborative action research. The impact on the inservice teachers who participated in this study is reported elsewhere (Rock, 1999; Levin & Rock, 2001).

Current Thinking About Professional Development

Constructivism is beginning to transform the ways in which professional development activities are structured and facilitated in many preservice and inservice settings. Current constructivist thought on the professional development of teachers states that teachers should be actively pursuing their own questions, building upon their own knowledge base, and interacting within a social environment. Darling-Hammond and McLaughlin (1995) believe that effective professional development means that teachers must be provided with opportunities to reflect critically on their practice to construct new knowledge and beliefs about content, pedagogy, and learners. "Teachers must be given ample opportunities to learn in constructivist settings and construct for themselves educational visions through which they can reflect on educational practices" (Brooks & Brooks, 1993, p. 121).

Sparks and Hirsch (1997) recommend "activities such as action research, conversations with peers about the beliefs and assumptions that guide their instruction, and reflective practices such as journal keeping" (Sparks & Hirsch, 1997, p. 11) become an active part of professional development strategies in field settings. In addition, Lieberman (1995) asserts that if teachers are given opportunities to discuss, think about, try out, and hone new practices, their new role as a teacher action researcher will become not just a professional development activity with a life span of one or two days, but a part of their role and vision of what they do as a professional.

Methology

Context for This Study

The teacher education program at the University of North Carolina at Greensboro has been part of the broader PDS movement since the 1990-1991 school year. The PDS model represents state-of-the-art practice in developing preservice programming by involving the collaborative efforts of school and university-based faculty (Holmes Group, 1990). Candidates who are accepted into the elementary or middle grades program become members of an inquiry team of approximately 25 preservice teachers, take their methods courses as a cohort, and engage in a weekly

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seminar as they concurrently participate in extensive field experiences for four consecutive semesters. By the end of the student teaching semester, they have approximately 1,000 hours in clinical experience. Participants in this study were placed in two diverse PDS sites located in Guilford County, North Carolina.

Participants

Participants were recruited from one cohort of first-semester, senior-level preservice teachers and their on-site teacher educators who volunteered for the study. The volunteer pool of preservice teachers participated in a group collaborative action research project during their junior year to familiarize them with the process of teacher action research. During this initial group project the preservice teachers formulated a question of mutual interest related to student motivation. In the two PDS sites the preservice teachers had observed that the kindergarten students were very intrinsically motivated and excited about school; however, as the students progressed in age the motivation and interest in school appeared to decline. The preservice teachers decided to investigate through a collaborative action research process how students in elementary school felt about school and why they felt this way. The preservice teachers designed a plan of action that included gathering data from all grade levels (K-5) and required a variety of data sources such as student surveys, student focus groups, and interviews with teachers at each grade level.

After the data were gathered, the preservice teachers compiled a data chart and identified patterns within and across grade levels. Next, the preservice teachers discussed the educational implications of the findings and created a list of action steps that they felt were important from what was learned from the group inquiry. From this initial, whole-group, collaborative action research experience, we felt that the preservice teachers were prepared to engage in a more formalized collaborative action research project with their OSTE the following semester.

During the summer prior to the year-long internship, the OSTE were introduced to the teacher action research process (Kemmis, 1984) through a two-hour professional development session. The OSTE spent time, as the preservice teachers had the semester before, considering the nature and intent of collaborative action research as a professional development tool. They were exposed to a variety of collaborative action research questions and discussed, in small groups, possible questions of inquiry, methods of data collection, and options for analyzing data and then communicating the findings. The OSTE were then encouraged to collaborate with their preservice teacher to design and participate in an action research project as a joint effort in their PDS during the semester prior to the student teaching semester.

Five preservice teacher and OSTE pairs agreed to participate in the study, although all preservice teachers in the cohort completed action research projects during their internship. The preservice and OSTE pairs set aside three conference times during the semester. The first was to generate the action research question and

plan of action, the second conferences was to analyze and reflect on data collected and to revise the plan if necessary, and the final conference was to finalize analyses, interpret findings, and write up action steps based on what was learned. The university supervisors gave written feedback on the initial action research plan and the final action research report, and verbal consultation was on-going throughout the experience, as university supervisors visited the PDS classrooms on a weekly basis. The preservice teachers also shared information about their projects during weekly seminars. The preservice teachers who participated in this study were all white, female, traditionally college-aged, senior elementary education majors. All names of participants and PDS sites have been changed to maintain confidentiality.

Data Sources and Analyses

Data sources used in the study were (a) pre and post individual interviews, (b) a mid-term individual interview (c) audiotapes of planning, mid-term evaluation, and final evaluation action research conferences between preservice teacher and on-site teacher educator, (d) research/dialogue journals, (e) action research plans, including reflections written by the preservice teachers, (f) final action research reports, including reflections written by the preservice teachers, (g) structured in-class writings from the preservice teachers, and (h) researcher field notes. A series of multiple case studies (Yin, 1994) was selected as the most appropriate design for this study because of the nature of the research questions.

Content analysis (Bogdan & Biklen, 1982; Merriam, 1988) and pattern matching (Yin, 1994) were the data analysis procedures utilized in this study. Construct validity was addressed by (a) using multiple sources of evidence, (b) establishing a chain of evidence, and (c) having participants review transcripts in order to clarify or add to recorded data.

The findings presented next focus on the cross-case analysis of the data collected on the preservice teachers in this study. They include a description of the participants' action research questions and their data sources. A summary report of the patterns of effects across the multiple case studies is also included.

Findings

Action Research Plans

Three OSTE-intern pairs conducted their action research projects at one PDS site. Laura and her OSTE, Brenda, posed the action research question: Is Accelerated Reader (AR) an effective reading incentive program for our fourth grade classroom? The data sources outlined in the action research plan included (a) checklist matrix to record each time a child asked to take an AR test or asked to check out an AR book, (b) individual student interviews, (c) observations about the program, and (d) the students' participation recorded in a reflection/dialogue journal kept by the teachers. The action research question that Shelley and Georgia decided to

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investigate was: Will implementing various learning centers in the classroom lead our first grade students to take more initiative and responsibility in their own learning? The data sources they utilized were (a) videotape recordings of the learning center time at various intervals throughout the project, (b) research/dialogue journal kept by the teachers, (c) student work samples, and (d) informal student interviews conducted at beginning and end of project. Stephanie and her OSTE, Ginger, were interested in studying what occurred when students were given “share time,” a time in the day to talk about issues that were important to them in an accepting and respectful environment. They were also interested in finding out if the time of day had any effects on the productivity of the sessions. Their plan of action included collecting data from three sources of data: (a) systematic teacher observations recorded in a research/dialogue journal, (b) student behavior recorded during share time, and (c) student written and oral reflections to how they felt about share time at the conclusion of the six week project.

At another PDS site, Carrie and Heather decided to pose the question, Will Accelerated Reader Program increase the reading level of at-risk students? They took a team approach with their OSTEs. Therefore, both second grade classrooms gathered data from the following sources: (a) whole class surveys, (b) Accelerated Reader at-risk reports, (c) Accelerated Reader student record reports, and (d) observations and reflections recorded in teacher dialogue journals.

Effects of Engaging Preservice Teachers in Action Research Projects

Five themes emerged and were replicated across each of the preservice teacher case reports in this study. Preservice teachers in this study:

✓ clarified their personal teaching theories in a supportive, collaborative environment,

✓ explored their sense of self as teacher within an elementary classroom context,

✓ gained awareness of their students, including knowledge of their students’ perspectives and needs within the classroom,

✓ acquired [a variety of unique] knowledge about teaching and curriculum, contingent on the nature of the inquiry, and

✓ gained awareness and appreciation for the processes of inquiry, reflection, action, and change as important roles of a professional teacher.

Self as Teacher

There was ample evidence in this study to show that these preservice teachers were able to clarify their personal teaching philosophies through engagement in this project. They took their beliefs about teaching and learning and actually put

them into practice while planning and conducting their inquiry projects. As a result, even before beginning student teaching, these preservice teachers had clearer images of what they see themselves doing in the classroom. For example, after studying the Accelerated Reader program and its ability to motivate students to read, Carrie commented: "I learned that I really personally think motivating students to read is very important and I will try to make it a personal challenge to find ways to motivate all children to read next semester" (C.M., AR written report, 12-11-98). Additionally, Shelley's personal conviction and confidence in the value of learning centers grew and became a solid part of what she envisions herself doing as a classroom teacher. Shelley wrote how she will enact her new understanding in this way:

I found that the centers were important for teaching the students how to work together, be responsible, and take control of their learning. I also found that the centers are wonderful teaching tools for small group lessons. I will definitely implement them at the beginning of my first year of teaching. (S.C., INTASC portfolio entry, 4-26-99)

Shelley and Heather expressed that patience and flexibility were crucial characteristics of being an effective teacher. They also saw these as needed areas of growth and development in themselves as they worked through their action research projects.

Another important insight about self-as-teacher emerged for Laura and Carrie as they gained understandings related to their prior beliefs and assumptions. In both cases they became aware that their assumptions were inaccurate at times and both were cognizant of the need to keep consciously checking and rechecking their assumptions and beliefs as teachers. Carrie expressed this understanding in her final action research report by writing:

I think this action research project was valuable to me because it taught me that my previous thoughts may not always be correct. I think it was important for me to see this as a result of this action research project. I must be careful about the assumptions I bring into the classroom. (C.M., action research written report, 12-11-98)

The reflective nature of the collaborative inquiry process, as well as the reflection requirements established within the specific guidelines for these action research projects apparently helped the preservice teachers to consider what they were learning about themselves as teachers during their shared inquiry. Carrie's OSTE, Martha, stated in the initial interview that she felt the collaborative action research project would be beneficial to preservice teachers and she confirmed at the end of the project that her initial beliefs were verified. "I do think it was beneficial for Carrie to have this experience because it provided her with documentation from which to reflect" (final interview, 12-19-98). Martha believed that the systematic collection of data in attempts to answer a research question brought a clear focus to the internship setting and encouraged deeper levels of reflection. This awareness of self and how it contributes to a preservice teachers' sense of self-as-teacher demonstrates that the process of collaborative action research has the potential to allow preservice teachers the opportunity to

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better understand themselves as persons as they clarify their perceptions about teaching during the inquiry process.

Furthermore, this self awareness also had an effect on how they planned to act as future teachers. For these preservice teachers their professed beliefs became more than just declarative knowledge. For example, Stephanie wrote: "I know that I will try to implement this strategy (share time) into my own classroom because I have seen the positive outcomes that can result from it" (S.M., final action research report, 12-11-98).

Understanding Students

One of the strongest patterns that emerged from this study was that all five of the preservice teachers began to focus on their students as they engaged in collaborative action research. A written reflection by Heather provides an example of how the preservice teachers were drawn to focus on and consider their students as they engaged in the action research project. "When looking at student survey sheets or student record reports during the research process, I would always ask myself questions such as: Why is this child testing more than the other students?" (H.J., seminar written reflection, 12-03-98).

Katherine, Heather's OSTE, expressed her belief that the collaborative action research project is valuable in preservice teacher education because of the knowledge Heather gained about students and the opportunity the project presented for shared dialogue about students in the internship prior to student teaching. Katherine felt that the project helped the preservice teachers to increase their understandings of students that they would be working with full-time during the next semester. She perceived this as advantageous as she reflected on past experiences with student teachers, "They often take many weeks to get to know the students and to gain information that is useful in instructing them and by that time the semester is almost over" (researcher field notes, 11-15-98).

Each of the five preservice teachers also expressed their increased awareness of students' needs by engaging in the collaborative action research project. For example, Stephanie wrote in her INTASC portfolio that "The action research project helped me to become more aware of the students in my class and the situations and circumstances that they are coming to school with everyday" (S.M., INTASC portfolio reflection, 04-26-99). Laura offered this example in another written reflection,

I feel that by doing this research, I learned what the students like and what they do not like about AR [Accelerated Reader]. This helps me to attempt to accommodate these students' needs either with a different incentive or by changing what they do not like about AR, if possible. (L.N. written action research report reflection, 12-11-98)

Laura, Heather, and Stephanie stated that they gained insight into student perspectives, which proved valuable to them as teachers and in turn enlightened them to the benefits for teachers who engage in action research. "It's just important

to talk to the students I think, to understand where they're coming from" (L.N., final interview, 12-11-98). "If we hadn't done this project...they (students) may have just continued to slip through the cracks" (H.J., final interview, 12-11-98). Heather and Laura also learned that by engaging in discourse with students and by conducting individual student interviews as part of their data collection they could gain useful knowledge from their students which often challenged their assumptions and prior beliefs. These preservice teachers showed evidence in this study that they were valuing the student perspective for the first time and understanding the part it plays in the teaching and learning process. For example, Laura, Heather, Carrie, and Shelley gained new appreciation and understanding of the complexity of student motivation. Laura offered this example from her final interview:

I learned that children can be very unpredictable about what motivates them to read. I also learned that not all children will respond to a particular incentive program, even the ones I thought would. I also learned that not all students learn in the same way and that we, as teachers, need to know how to teach to all different types of learners. (L.N., final interview, 12-11-98)

Curriculum and Teaching

Although each preservice teacher provided evidence of unique understandings about teaching and curriculum as a result of their particular action research projects, there were no strong patterns that emerged across the five cases.

This is probably best explained by the fact that much of the preservice teachers' learning in these areas was inquiry specific. For example, Shelley became more aware of the importance of classroom environment and effective classroom management as she investigated the effects of learning centers on her first grade students' learning. Laura became more aware of the need to be open to multiple alternative explanations for why students may or may not engage in instructional strategies within the classroom as a result of her study of the Accelerated Reader program. In terms of curriculum, Stephanie and Carrie dealt with the issue of finding appropriate balance within the curriculum between cognitive and affective goals of instruction. However, Shelley's action research project helped her acquire a deeper knowledge of curriculum content because "the project has forced me to really know the first grade curriculum because I am constantly checking with the standard course of study to make sure my centers are focusing on what children in first grade should be learning" (mid-term interview, 11-05-98).

In addition, it appeared that unique and different perspectives provided by their collaborative partners, their OSTEs, may have also impacted their understanding about teaching and curriculum. For example, Heather increased her awareness of the need to be critical of teaching strategies and methods in terms of learning outcomes for students while conferencing with her OSTE. Shelley's OSTE continually focused her on the content of the first grade curriculum as they planned for the learning centers. "Georgia was always asking me during our planning sessions if my

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instructional activities connected to the curriculum we were supposed to be teaching” (S.C. mid-term interview, 11-05-98).

These findings indicate that understandings gained about curriculum and the teaching process may vary depending on the question that is initially pursued and the direction that the participants follow as a result of their reflection on and analysis of collected data.

Roles and Responsibilities

Another pattern that emerged from this study suggests that the collaborative action research process may affect the way preservice teachers think about their roles and responsibilities as teachers. Shelley, Heather, and Stephanie offered statements indicating that they considered the role of “teacher as researcher” an important one that they should be doing as classroom teachers. For example, Heather stated, “By engaging in this project, I learned how valuable this kind of research is to teachers” (H.J., final interview, 12-11-98), and Shelley wrote in her INTASC portfolio:

Through my action research project, I used classroom observation, information about my students and research as sources for evaluating the outcomes of teaching and learning and as a basis for experimenting with, reflecting on and revising practice. (S.C. INTASC portfolio reflection, 4-26-99)

Laura, Shelley, and Heather also named the reflective process that accompanied their action research projects as a critical activity for teachers to engage in to increase knowledge and improve practices. “It is through the continuous process of reflection that we grow and improve as teachers” (L.N., INTASC portfolio reflection, 4-26-99).

Carrie and Heather stated that they learned through this experience that it was their responsibility to seek out professional support and development for themselves as beginning teachers. Carrie wrote:

As a teacher I need to know how to expand my knowledge and skills to benefit every child. I learned that as a teacher I need to ask more questions, I should be inquiring about my students and about how and what I am teaching. I’ve also learned to not be afraid to ask teachers with more experience questions, like Martha. She was willing to help me think through issues and gave me insight but I had to ask for it. (C.M., final action research written report, 12-11-98)

Heather also offered these thoughts in a reflection about her action research experience,

Being a person that is a reflective practitioner, who continually evaluates the effects of his or her choices and actions on others, and who actively seeks out opportunities to grow professionally is essential to becoming an effective teacher. A teacher who is not reflective and does not put forth effort to increase his or her educational knowledge, can not expect to rise to a higher level of teaching, much less become a master teacher. (H.J., INTASC portfolio entry, 4-26-98)

This study does not provide evidence to show that these emerging beliefs will be turned into actions by these preservice teachers as they graduate and become inservice teachers. However, the preservice teachers' expressed conception of their role as professionals did include an understanding of the value of persistent questioning, reflection, action, and change, which are all potential outcomes of engaging in teacher action research.

Discussion

The concept of self, as the preservice teacher imagines one's teaching-self to be (Freppon & MacGillivray, 1996), is often neglected in the preparation of teachers even though a focus on self is a "necessary and crucial element...of teacher development" (Kagan, 1990, p.455). According to Bullough (1991) obtaining a clear image of self as teacher is critical for professional growth to occur. Bullough observed that novices who lacked a clear self-image tended to be more inclined to blindly imitate cooperating teachers and were likely to flounder when they entered their own classrooms as beginning teachers. These cases show that engagement in the collaborative action research process provides an opportunity for preservice teachers to explore their images of themselves as teachers.

In addition to an unclear image of self as teacher, Kagan (1992) states that student teachers enter the classroom with a "critical lack of knowledge about pupils" (p.42). Therefore, involvement in action research projects, such as the ones described in this study, can assist preservice teachers in acquiring crucial knowledge of students "that must be used to challenge, mitigate, and reconstruct prior beliefs and images" (p.42). Haberman (1992) reported that teachers' involvement with action research often required teachers to interact more with students and therefore increased their awareness of student needs within the classroom. This study supports Haberman's findings, reinforcing this as one of the most beneficial outcomes of engaging preservice teachers in the process of action research. The findings across these multiple case studies also strongly support Kagan's (1992) notion that structured "research" assignments are needed in teacher education to provide preservice teachers with opportunities to interact with and study students in systematic ways.

Fuller's developmental model of teacher concerns (1969) is an interesting model to consider when discussing preservice teachers development through collaborative action research. Her model provides information for teacher educators about the concerns of preservice teachers as they are developing. Fuller's work has led teacher educators to understand that most preservice teachers do not focus their attention on the needs of students until very late in the student teaching experience and that their early concerns lie more with their own teaching and with management behaviors. The evidence presented in these five case studies supports earlier research (Fuller, 1969; Kagan, 1992) that these preservice teachers are concerned

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with classroom management issues (i.e. what time of the day should share time be implemented, how can I move students through learning centers efficiently, what kind of management system needs to be in place that allows students equal opportunity to utilize Accelerated Reader program, etc.) along with concerns about their own teaching adequacy. Yet, there is also a substantial amount of evidence to indicate that the concerns of the preservice teachers' in this study were focused on their students' needs earlier on than the research to date would predict.

Therefore, we would contend that if preservice teachers are to advance in their professional development they must have experiences that set their sights on higher levels of concerns. By engaging in collaborative action research projects during preservice teacher education these preservice teachers had the opportunity to wrestle with present concerns while also being stimulated to begin to look beyond these novice concerns of teaching by addressing the needs and perspectives of students.

A rival explanation as to why these students may be focusing on student concerns this early in their preservice teacher program is that they have acquired an experience level beyond that of many preservice teachers due to the extensive number of hours of field work they have experienced through the PDS model of their teacher education program. Their thirty hour field experience during the sophomore year, plus ten-hour per week field experiences for three full semesters before student teaching, may be providing these preservice teachers with benefits that other preservice teachers can not achieve until later in the student teaching experience. However, even if this is so, collaborative action research, operating in conjunction with extensive field experiences, appears to have the potential to provide a professional development experience for preservice teachers that leads to greater understandings of their students earlier on.

It is also important to emphasize that the findings from these case studies indicate that the choices of data sources influence the outcomes of the action research process. In this study, the preservice and inservice teacher pairs were encouraged to include data sources that revealed their students' perspectives. As a result the participants became more focused on students and cognizant of their needs and understandings of the classroom experience. In fact, we suggest that data collection strategies that include gathering information from students (surveys, personal interviews, focus groups, etc.) be encouraged during the action research process in order to focus preservice teachers on their students' perspectives.

The findings of this study also show that the research question appears to not only guide the action research study but also the areas of learning that the participants' experience. Therefore, framing the action research question is a critical piece in the collaborative action research process. We think the key is to identify an area of inquiry that assists the preservice teacher and the OSTE in addressing their immediate needs, while at the same time working on their long-term professional learning goals. The university teacher educator should be actively involved in the problem-setting process. This requires providing time

and support for exploring the nature of the potential inquiry, discussing possible methods to address it, and addressing how the participants will know if the inquiry has been sufficiently studied.

The descriptive nature of this study provides information on how these participants were affected by the collaborative action research process. However, in order to more fully understand the effects of collaborative action research, a longitudinal study is needed to reveal the long-term influence of collaborative action research on preservice teachers' professional development.

Conclusions

Early field experiences in classrooms are essential to promoting the professional development of preservice teachers (Kagan, 1992). The field experience itself is valuable because preservice teachers need to experience the context of schools and begin to observe the everyday happenings from a teacher perspective. However, these case studies show that when action research projects are introduced into the internship setting they provide an opportunity for focused, deliberate learning that evolves out of the curiosity and genuine interest of the teacher participants. In this study collaborative action research experiences provided opportunities for preservice teachers to gain valuable insights about self as teacher, their students, the curriculum, teaching, and their roles and responsibilities as teachers. The participants in this study expressed that the collaborative action research process revealed to them the importance of focused inquiry, reflection, analysis, collaboration, and thoughtful actions for their professional development as teachers.

Historically, the level of teacher involvement in research has been low (Olson, 1990). This low involvement is attributed, at least in part, to the failure of preservice programs to prepare and require students to conduct research (Henson, 1996). As we continue to create and refine the professional development school concept it is essential that preservice teachers be engaged in meaningful and relevant experiences that target inquiry, reflection, and action as central roles and responsibilities of the professional teacher. It is important to not only train preservice teachers in the process of action research but also to provide them with opportunities to observe their mentor teachers engaging in these practices. Cochran-Smith (1991) states that "the only way for beginners to learn to be both educators and activists is to struggle over time in the company of experienced teachers who are themselves committed to collaboration and reform in their own classrooms" (p. 307). Through the struggle of conducting collaborative action research projects, meaningful learning emerges that has the potential to bring about change and development in teachers. It is this type of work with our preservice and inservice teachers in Professional Development Schools that will lay the foundation for the acquisition of knowledge, skills, and attitudes necessary for continued pursuit of professional development through their careers.

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