Searching for New Directions: Developing MA Action Research Project as a Tool for Teaching

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Action research has been recognized as a useful professional development tool for teaching, but for inservice teachers, conducting action research can be challenging. Their learning about action research can be influenced by social situations—whether in an MA (Master of Arts) program or other professional development. The purpose of this longitudinal case study is to examine how the participants' understandings about action research changed over time in a MA program, the participants' understandings about action research, and the outcomes of doing this research. Various data were collected from semi-structured interviews, informal conversations, e-mail messages, and the participants' final action research paper and follow-up interviews. We discovered both strengths and weaknesses of the program on learning and continuously using action research as teaching tools through the participants' perceptions and consequences of action research. The study concludes with suggestions on how MA inservice teacher education programs can incorporate action research that can be a meaningful professional development tool and develop ways to ensure the quality of research.

Keywords: action research, inservice teacher education, MA (Master of Arts), professional development

Action Research and Professional Development

Action research, also known as practitioner research or teacher research in education, has been used since the 1940s (Lewin, 1946). Using action research to improve classroom practice has strengthened inservice teacher education. However, action research, or other professional development experiences, has not had a good marriage with MA (Master of Arts) thesis research (Maaranen, 2009). One major reason for this may be different epistemological or methodological beliefs. More conventional academic research separates theory from practice, as well as researcher and participants. Action research involves a "holistic epistemology" (Fals-Borda, 1998) that includes ethics, values, and social responsibilities as well as the cognitive part of knowing, and researchers are both inside and outside of the phenomena (practice) and social change processes (Fricke, 2006). Cochran-Smith and Lytle (1990) added that the research on teaching should include teachers' voices, teachers' questions, and teachers' ways of understanding and solving problems.

Action research is a systematic, intentional (Cochran-Smith & Lytle, 1993), and self-reflective inquiry conducted by practitioner (Kemmis & McTaggarte, 1988), but it is questioned about its methodological rigor, the training of researchers, and dissemination. In spite of the criticisms, action research is well suited to promote effective teaching. Ross and Hannay (1986) argued that reflective inquiry has promoted progressive

and effective method of teaching. Many studies showed that conducting action research revitalized practice and a renewed sense of teacher efficacy (Richert, 1996). Through action research, teachers make better connections between theory and practice (Kirkwood & Christie, 2006), develop critical thinking (Kraft, 2002), and engage in more meaningful professional development experiences (Zeichner, 2003).

Although teachers benefit in many ways by using action research to improve their teaching, doing so does not make all teachers become teacher researchers. Reis-Jorge (2005) found that the types of degrees attained by teachers and their exposure to a research course influenced teachers' engagement in research. Zeichner (2003) found that more experienced teachers participated in research more. Ballenger and Rosebery (2003) pointed out that experienced teachers made connections between teaching and their research more easily. There are also school factors such as supportive administrators (Allen & Calhoun, 1998), and mentors who can provide direct assistance for research, if they had formal training in research as college or university researchers (McBee, 2004).

Some of these factors may affect some teachers positively, but not all. It may depend on contexts and approaches. According to Pea and Brown (1991), learning is culturally situated and humans develop in social situations using tools that the culture provides for support. This suggests the need to consider how individual teachers have constructed and reconstructed their understandings and beliefs through action research. Zeichner and Noffke (1998) pointed to a need for more efforts to examine "the influence of practitioners' belief structures and concepts of self" (p. 308). This in-depth case study will contribute to finding alternative ways to help inservice teachers develop tools to improve their teaching.

Action Research: Elements and Its Quality

"Action research is a term that is anything but unanimously and clearly defined" (Carboni, Wynn, & McGuire, 2007, p. 51). *The SAGE Handbook of Action Research* (Reason & Bradbury, 2008) defined it as "a family of practices of living inquiry that aims, in a great variety of ways, to link practice and ideas in the service of human flourishing" (p. 1). Many definitions of action research in the literature emphasize the ownership of the research, that is, action research is done "by" teachers "for" themselves (Mertler, 2008) rather than by outside researchers. The elements of action research that distinguish it from other forms of research can vary, including a spiraling process (Lewin, 1946), systematic study (Corey, 1953), collaborative study (Jordan, Henry, & Sutton, 2000), and so on.

When Lewin (1946) first coined the term "action research", he used the metaphor of a spiral of steps to describe the "cyclical" process of action research. Within each cycle, teacher-researchers: (1) observe/identify what a certain practice is, not as it should be and/or could be improved (observe); (2) plan a course of action that involves changes in the practice (plan); (3) carry out the plan (act); and (4) evaluate the effect of the action and modify future practice (reflect) (Kember, 2000). These spiraling elements suggest that "Teachers must go beyond becoming researchers by accident" (Babkie & Provost, 2004, p. 261). Action research is systematic: "It is planned, ordered, and public" (Shank, 2006, p. 5). It is methodically planned involving the "systematic" collection of evidence to answer specific questions, which should lead to changes in both the practice of the teacher and the progress of his or her students. Action research can be systematic in various ways.

The "reflective" element of action research was highlighted in Donald Schön's (1983) seminal work, *The Reflective Practitioner*. Reflection can take place during practice (reflection-in) or before/after practice (reflection-on). The rationale for reflection is to prepare practitioners to tackle new situations or problems, for

which they are not specifically trained, which is an important, if not the most important, principle of action research.

Teacher education programs have the responsibility to support inservice teachers to exercise trustworthy judgment based on a strong base of knowledge and to enable them to go beyond "covering the curriculum" to actually facilitate learning for students who learn in very different ways (Darling-Hammond & Bransford, 2005). The action research process encourages teachers to take control of their own professional development by being "active learners" (Norton, 2009).

"Collaboration" in action research can happen in many different forms with different purposes—pursuing a holistic approach, which refers to the research "with" rather than "on" people (Heron & Reason, 2001). The researcher and participant participate in the research, promoting reflection that broadens and deepens the understanding with multiple perspectives, and receiving procedural and socio-emotional support (Nolan & Hillkirk, 1991). "Collaboration" is encouraged in teacher action research to bring co-researchers into an inter-subjective dialogue intended to open and refine different ways of knowing (Pine, 2009). Peer-observation and professional buddying or mentoring systems are used widely in action research to promote collaboration. The prerequisite for a successful collaboration is mutual trust between professionals and common beliefs about what constitutes good teaching in their subject (Norton, 2009).

The positivist paradigm has dominated in defining scientific research, the criteria of research, and the nature of rigor in education research. With the paradigmatic shift to qualitative research, theorists responded to the criticisms of positivists by articulating criteria to justify the qualitative research, such as positionality, trustworthiness, local validity, multiple voices, critical subjectivity, and so on. Among various criteria, this paper focuses on ways of claiming validity to improve quality. The complex actions and uncertainties of classrooms require different approaches to claiming validity in action research. Anderson and Herr (1999) described validity criteria useful within action research: (1) Outcome validity—the extent to which the research project leads to "successful" outcome that leads to spiral process of reframing problems; (2) Process validity—asks how problems are framed and solved which includes but not limited to triangulation of various methods and multiple perspectives; (3) Democratic validity—the extent to which research is conducted in collaboration with people who are involved in the problem studied; (4) Catalytic validity—the degree to which the research project creates participants' enthusiastic involvement for social change and transformation; and (5) Dialogic validity—the extent to which the research is developed with diverse groups of people involved in the research process. These five different types of validity were used to examine the participants' perceptions of quality action research and the validity they established for their written research.

Collectively, in teacher action research, a teacher-researcher systematically investigates his or her own teaching/learning practice through a reflective lens in a cyclical collaborative process to achieve the twin purposes of modifying his or her own practice and contributing to the theoretical knowledge base in general.

Methodology

In this research, we presumed that learning about action research is socially, culturally, and politically constructed, complex and changing, and that multiple mental constructions exist that are specific to, and influenced by the participants' context (Guba, 1990). This ontological and epistemological stance supported the use of a qualitative and interpretive approach, which uses a researcher's firsthand knowledge of the social context to interpret how the participants create meaning (Burgess, 1985). We also used critical theory which

presumes power is central to understanding the world, as a way of being conscious about how a dominant ideology of practice and discourse shape our perspectives of research reality (Freire, 2000; Giroux, 1997; Lemke, 1998).

We present multiple perspectives of four inservice teacher participants' stories in order to describe the complexities and multiplicities of these participants' understanding such faction research, outcomes of conducting action research, and their perspectives on program influence. Using cross-case study, we aimed to develop in-depth understanding of experiences of these case study teachers regarding this specific event of action research (Bogdan & Biklen, 2002) and to get insights into the action research project in an MA inservice teacher education to support inservice teachers more effectively. This study does not aim to attain a generalizable evaluation on the program's implementation of action research. Rather, by collecting and analyzing detailed information about specific cases, we aimed to reveal the overlooked and untold stories about teachers' learning about action research in this particular MA program.

Hence, it is our intent to investigate the inservice teacher participants' understandings of action research in terms of its elements and qualities, and outcomes of conducting, and their perspectives of program influence on their learning about it. We also attempted to provide insights to the inservice teacher educators who attempt to incorporate action research into graduate projects by examining the MA action research projects and the participants' experiences before, during, and after action research project of four inservice teachers.

Contexts and Participants

This research was situated in the context of an MA graduate program with an area of study on pre-K to Grade 3 early childhood education. Historically, most of the enrollees of the MA program are inservice teachers who need to get credit for their licensure renewal or who need a master's degree to meet state policy requirements within the first six years of teaching. Students in this MA program must take an introductory seminar that introduces various research topics and the faculty members' research interests. It is designed to be offered to new students during the beginning year of the program. But due to the limited number of MA students, it has been offered once a year. Students must also take at least two research courses—one by the student's choice and the other a required course focused on inquiry in classrooms. From the second quarter to the last, students take a capstone seminar, and an independent study is done during the last quarter to complete the project. Each course provided by the program for research is taught by different instructors.

For the final master's project, students can choose either thesis or non-thesis options (action research, portfolio, field experience, etc.). In this MA program, most faculty members agree that providing alternative ways of presenting their learning, especially for inservice teachers, is in line with the pedagogical goals of the program. Although there is an agreement on encouraging students to conduct action research, the goals and practices of action research are communicated differently by each faculty.

We contacted former MA graduates, for whom we had contact information and current students who were enrolled in the program during the year of 2010. We asked for volunteers and four teachers agreed. All participants were inservice teachers and enrolled in the MA program because of mandatory state requirements. They earned their degrees with a non-thesis action research option. The action research project was the first time to do research for all participants. The professional development they had experienced previously comprised mostly local conferences or in-school professional development workshops, none of which was related to action research.

Amy (pseudonym) has been teaching for 12 years in Grade 1 in the same inner-city school. She earned her MA degree in June 2009. Natalie (pseudonym) was a 15-year veteran elementary teacher working in a small rural community. She had taught for three years in Grade 1 before having her own children. She quit her job to raise her children for 15 years, then returned to teaching and has taught for 12 years in kindergarten in a rural school. She earned her MA degree in March 2010. Katie (pseudonym), a kindergarten teacher in her eighth year in the same rural school, completed her degree in June 2010. Gail (pseudonym) was in her fifth-year as a kindergarten teacher in a rural area. She earned her MA degree in August 2010.

Data Sources and Analysis

This study focused on classroom-based action research conducted by the four case study teachers. It featured triangulation in data collection and analysis, relating multiple sources of data and theories to establishing the trustworthiness, or "verification of the consistency of the facts, while trying to account for the inherent biases of the researchers" (Mertler, 2008, p. 9). The data were collected for more than two years from January 2010 to May 2012. Audio-taped semi-structured interviews (January, 2010), one focus group interview (June, 2011), four follow-up interviews during the years of 2011 and 2012, ongoing e-mail messages, and the participants' written action research papers were collected as soon as they completed their research. The transcribed interviews and e-mail messages were analyzed via a color-coded system. Emerging themes were identified through the coding process.

Results

Through analyzing the data, we identified three major themes: (1) unchanged/changed conceptualization of research and identity of teachers as researcher; (2) understandings and outcomes of conducting action research focusing on the elements and validities of action research; and (3) continuing action research after graduation.

Unchanged/Changed Conceptualization of Research and Identity of Teacher as Researcher

When the participants were asked what the research meant to them before they started their action research, they had similar conceptions that reflected dichotomous beliefs about research and practice. All four participants described the research as a conventional quantitative research. For example, Katie said, "When I hear 'research' I think of a bunch of numbers that I cannot understand and all conducted and consumed by people whom I cannot reach easily (theorists and professors)" (Interview, January 2010). They also mentioned that they thought the research as irrelevant to their teaching practice. Their initial emotions regarding their action research projects were somewhat negative and these emotions seemed to be related to their understandings of research. All four participants said that they were terrified when they heard that an action research project was required for graduation (Interview, January 2010). Their responses were not unusual. Berger, Boles, and Troen (2005) found that their participating teachers were intimidated by the concept of research at the beginning of their research project. The participants in the study conducted by Girod and Pardales (2002) also expressed similar concerns.

Another aspect of our case study, teachers' conceptualization of teacher research was related to positionality, which refers to researchers' specific positions in their context (Maher & Tetreault, 2001). The participants' understandings about positionality also appeared to be related to their understandings about research. They all believed that researchers should be distanced to be "objective", so their research

(Rodriguez-Brandao, 2005) could be more scientific. All participants mentioned the inappropriateness of using "I" in their research. In interviews after completing their action research projects, Amy and Katie reflected:

> Amy: I was taught in undergraduate to never use "I" in a research paper or any paper. So I had some difficulties of using 'I' in the beginning. (Interview, June 2011)
> Katie: It was difficult to quit making generalizations in writing by using one or some. (Interview, June 2011)

Their initial understandings about elements and the quality of action research paralleled with their beliefs about research.

After the completion of their action research, the data showed that the participants' perceptions of research had changed. It seems that their action research experience had helped them broaden their conception of research and see the interconnections between the research and teaching practice through their action research. Amy, Katie, and Gail identified themselves as teacher researchers:

> Amy: As a classroom teacher, I do research to determine whether what I am doing for all subject areas is working or not. (Interview, February 2011)
> Katie: I believe teaching really is research. You always raise questions about students, contents, and instructions everyday and try to find out the answer. If something's not working, you (the teacher) have to make some changes, not them (researchers). (Interview, February 2011)
> Gail: (Through research), finding something that you want to change, not necessarily that's bad but something you want to improve, then you have to find resources to change that to benefit your students. (Interview, February 2011)

Amy's, Katie's, and Gail's understandings about the relationships between research and practice changed from dichotomy to praxis. Initially, they saw research as something someone else does and as disconnected from their teaching. Their responses at the end of their research projects showed a more integrated conception of research and teaching as interactive, i.e., as praxis. However, Natalie did not identify herself as a researcher even after completion of her research. She seemed to believe that one had to conduct research in a particular way in order to be a researcher. She explained:

> A teacher researcher is one who continuously conducts research similar to what I read for the literature reviews of my action research. I am not a teacher researcher because I don't conduct this kind of research. (Interview, February 2011)

As they gradually but slowly changed their perceptions of research, their understandings about positionality also changed. Their action research, which was conducted in their classroom about their own teaching practice, seemed to provide positive experiences and views regarding subjectivity. The participants were well aware of being insiders in their research, and they shared different positioning experiences through action research comparing with the past research experiences:

> Amy: While I was writing my action research paper, I found it easier to use "I" because it is how I would speak about my teaching. (Interview, June 2011)
> Katie: When I began using "I", it put things in a different light. This wasn't a research project for a class or my degree … It was an evaluation of something I tried in my classroom, to help students and families become for literate. Using "I" helped refocus the purpose behind my research, as opposed to directing to what a professor or degree program wanted. (Interview, June 2011)

Unlike Amy and Katie, Natalie and Gail had somewhat different experiences regarding positionality. Natalie and Gail explained that they were confused about positionality, because there were mixed messages and unclear explanations about positionality among university instructors who taught research-related courses,

advisors, and the second reader/evaluator of their action research project. As students in the hierarchical position, they often disguised their own thoughts and were inclined to take the instructor or evaluator's stance to pass the test without any trouble. They did not seem to feel comfortable to share and negotiate positional differences.

Understandings and Outcomes of Action Research

We analyzed the participants' perceptions and the written action research papers to see which of the action research elements and validities were considered and included in their final papers. Both the elements (cyclic, systematic, reflective, and collaborative) and validities (outcome, process, democratic, catalytic, and dialogic) of action research reflect a researcher's choices in conducting her research and, in turn, reflect personal commitments and contextual factors.

Elements of action research. All of the participants studied a problem or challenge in their classroom. The goal was to develop plans of action to address their research questions. Amy studied the impacts of using mathematics games and music on addition and subtraction math fact recall for first graders. Natalie conducted her research on the effects of interventions on sight word recall and retention with kindergarten students. Katie examined the ways to support family involvement and empowerment through home literacy activity. Gail investigated how the "Literacy with Role-Playing Teach Conflict Resolution" program affected students' ability to resolve conflicts independently.

Of the four action research elements, systematic inquiry was the dominant element in all four participants' action research. They started their research by describing their intentions, reflected on their past teaching practices, and included purposes of the research, literature review, research methods with planned data collection, and results, and then finished with conclusions.

The forms of their action research showed a linear problem-solving process rather than the recursive cyclical process often described in the literature (Kemmis & McTaggart, 1988; Cochran-Smith & Lytle, 1993). The spiral process proceeds with several steps, including planning, action, and reflection, but the participants' research did not show these steps. Although Amy, Gail, and Natalie recognized that some pedagogical strategies were not effective and some data collection methods (tests or surveys) needed to be modified during data collection and analysis, they delayed their evaluative reflection and action regarding these issues until they finished their research. When they were asked the reasons for the delayed reflection and action, all answered that they did not think they could make any change in the middle of the study. Amy said, "There was a hidden rule. You stick with what you planned" (Interview, December 2011). This response seems to parallel a traditional research plan in which researchers do research in order to test something, rather than the more fluid, reflexive cycles of action research to improve practice. It seems that they were not informed about all elements of action research or not guided to include certain elements.

Katie seemed to understand the role of the cyclic aspect of action research and included reflection about the importance of a cyclic process in action research, but she did not explain how she changed or modified things in her written action research paper:

> Katie: I realize, as a teacher-researcher, there have to be fluid elements in my research. To have a positive influence on the families involved with my research, I need to obtain direct feedback from the families to assist them in working with their children. It is no different than assessing my kindergarteners at the beginning of the year to see where they are academically. I need to take note of my families and anticipate what challenges they may have in completing "Connect with Home" activities with their child. The fluidity and ability to change was an element missing in much of the research I

read. It is wonderful to collect data and see positive academic and social implications, but it is essential to use the data for the improvement of family-school relationships. A benefit in completing an action research study is the ability to adjust my research as I respond to the successes and struggles of my family participants. (Action Research, June 2010)

There was no evidence of repeating cyclic elements in the participants' research, but the reflective element was evident at the beginning of the plan and at the end. Amy, Katie, and Natalie all provided extensive reflections on their previous teaching practices regarding the topics they would study. They all expressed similar challenges, such as lack of resources and support, the uncertainty of pedagogical strategies they had previously used, the difficulties of meeting the content standards and school demands, and so on. Amy shared:

When I first began teaching ten years ago, our district did not have a grade level textbook teaching guide for mathematics. I accumulated a variety of resources from co-workers and companies that sell teaching materials for mathematics. … Over time, the first grade math curriculum has become more challenging. … Last year, there were approximately nine out of 22 students in my class who received an unsatisfactory on their grade card in the category of knowing their basic addition and subtraction facts. It came to my attention at this time that my current teaching methods regarding addition and subtraction facts needed to be modified. (Action Research, June 2009)

Amy, Katie, and Natalie also reflected on their results. Amy and Natalie focused on evaluating specific aspects of their teaching. Their research showed both positive and negative results and led to plans for future practice. For example, Amy thought the use of music to teach addition and subtraction was helpful, but giving her students more time to listen to, memorize, and practice would improve test scores more (Interview, June 2011). Katie reflected on the changes in family participation and attitudes towards diverse families through her action research:

Katie: I have held the expectation that most families read to their children before bed. In completing this research, I have seen that it is not necessarily true. Families have indicated they want to know what is going on at school and want to spend time with their children. It is my job, each year, to assess where families are in their literacy development, and help them incorporate positive literacy activities into their daily lives. Whether it is through homework activities or conveying what is being taught in the classroom, each family is different, and it is my responsibility to help the students and the families succeed. It is my hope that evaluating my families each year will help modify homework for the maximum academic and socio-emotional impact on my students. (Action Research, June 2010)

The collaborative element was probably the most challenging to incorporate in the MA action research. The action research project is a high-stake assessment that judges each "individual" student's ability to demonstrate what he/she has learned in the master's program, and therefore, it influences his/her degree attainment. Whether teachers incorporated a collaborative element may also have been influenced by the faculty members' and the participants' paradigmatic beliefs about collaboration in research. Although Katie, Gail, and Natalie worked with the same research advisor and the second reader, only Katie felt she collaborated with her advisor (Interview, June 2011). Interestingly, Katie considered talking about her research as collaboration with her adviser, but Gail and Natalie thought their adviser was more evaluative than collaborative. Amy thought collaborating with a faculty member who was not her advisor or the second reader was beneficial, because she felt more comfortable talking with someone who was not an evaluator of her research.

Validity of action research. The written action research projects and interview data at the end of the program were analyzed to look for evidence of using the five types of validity—outcome, process, democratic, catalytic, and dialogic (Anderson & Herr, 1999). Of the five types, only the process validity was manifested in

all the participants' written action research. Katie described in her research project that she attempted to achieve process validity by triangulating her data sources. All four participants collected data from a variety of sources, including observations, pre- and post- interviews, pre- and post- surveys, anecdotal notes, researcher's journal, and artifacts involving students or families who were in their classrooms. They also provided clear and detailed descriptions of methodology, which includes contexts, participants, and the processes they used for data collection. It seems that this phenomenon is related to the implicitly agreed upon institutional emphasis on "scientific methods".

Although all participants established process validity in their written research, their responses were different from the validity they actually claimed in their research, when they were asked to share their understandings about validity. That is, no one mentioned process validity. Each participant had a different understanding about validity. Katie's perception of validity fit nicely with one of the five validities listed above, but the rest of the participants' perceptions of validity did not fit clearly.

Katie's perception about the validity of action research was categorized as catalytic validity which addressed "worthwhile practical purposes" (Heron, 1996, p. 41) considering benefits for children. Katie said that the purpose of research is related to the validity of research:

> It comes with purpose. It shouldn't be for the sake of research. If there is no ultimate outcome you are looking for, it is bad. It has to help the kids. Validity of action research is definitely related to the purpose of research. It should be for the students. (Interview, June 2011)

For the question about the validity of research, Gail responded that the researcher's attitude is related to the quality of research:

> Attitude. You should be passionate about and care about what you study and care about students' life and learning. You should care about it. (Interview, June 2011)

According to Amy, her research was good because it showed her what she needed to know, but it was also not good because it did not show the positive results (complete success) she expected. Natalie, unlike Katie and Gail, expressed that all research can be good as long as the researcher is using proven, reputable sources (pedagogical strategies from her literature review) for her research.

Continuing Action Research After Graduation

After their graduation, the participants were asked to describe their action research experiences to ascertain whether they continued conducting action research in a master's program and whether the program experiences helped them to continuously utilize action research in their classroom to improve their teaching. During the year following graduation, they all continued to do some parts of their research. Some raised research questions, collected data, or reviewed literature and others used the pedagogical strategies, questionnaires, or surveys that they used for their MA research.

Katie, who studied about family participation with positive results, such as it increased family involvement in school and improved relationships between Katie and her students' families, continuously used the family participation program she studied for her research since her graduation in 2010. Katie explained:

> I subsequently revised and incorporated surveys with new group of families, and I incorporated online surveys for some families. I also shared the surveys and family participation activities from my action research and discussed the results with other colleagues in my school. Two of them (colleagues) applied them in their classrooms. (Interview, January

2012)

Natalie's positive research results on sight word intervention promoted her to review some literature and collect data through observation about a child with selective mutism during the year of 2011, and she studied about a child with autism in 2012. She continued to use the sight word intervention, but she did not conduct research on it because she felt that the method was already proven effective.

Amy continued to use the pedagogical strategies and surveys from her action research with some modifications, but she did not conduct systematic research:

> Even though there was not strong impact, I still use music and games because each group of students is different. But I think about how to implement music and games in a correct way. And also I am thinking about using surveys for other content areas. (Interview, June 2011)

Gail's research did not show any positive result in students' behaviors. This seemed to discourage her to search for more or different resources. She continued to do what she thought was effective regardless of her research results, because "each group of students is different". During an interview (June 2011), she said that she wanted to use one of the pedagogical strategies from the literature she reviewed for her MA action research. However, she did not attempt to do so or to conduct research when she was asked in a follow-up interview in January 2012.

Three participants used the teaching strategies from their action research project, but none of them conducted any systematic research. For example, they did for their MA degree, which would have included systematic data collection, analysis, and writing up for dissemination. When they were asked about the challenges of conducting action research during the MA program and after graduation, all of them answered "lack of time". When asked specifically whether it was time for collecting data, reviewing literature, analyzing data, or something else, they seemed to recognize that their challenge was not mainly about time. According to Katie and Gail, collecting data was smoothly incorporated into their daily curriculum and reviewing literature was enjoyable, because they had discovered new information and ideas about their topics. However, the deadline they need to meet and the writing-up process made them uneasy. Seider and Lemma (2004) also found similar response from their participants. The authors added that their hesitation might be due to the lack of support. The interview seemed to help the participants be retrospective on their action and motivate them to do more research. While we were interviewing, Gail started to think about different ideas that she wanted to research. Dialogic methods may be a way of supporting teachers to continue their action research.

Discussion

Some of the literature on action research acknowledges positive influences on teachers' professional development. However, it is still an unfamiliar approach for many teachers. It is also a complex and challenging task for inservice teachers alone to develop high quality action research and use it continuously as a professional development tool. Through the MA action research project in our program, the participants gradually developed understandings about action research. It was evident that they included and considered some elements of action research to characterize their research. Although they did not conduct the completed written research, they continued to use some parts of action research for two years after graduation.

A few recommendations were drawn from the results, with an assumption of the close relationship between the understanding and application of action research: First, teacher educators need to provide teachers

with more opportunities for dialogues about epistemologically and methodologically diverse research. Three participants' dichotomous beliefs about research and practice have changed. Two participants have resolved but another two struggled with tensions between objective and subjective positionality through action research by conducting research while teaching in their own classroom. Their understandings about and integration of the elements of action research (considering cyclic process, collaboration elements, or multiple ways of learning) remained unsolved. Inservice teacher researchers and teacher educators need to consider that the different forms of action research are ways of knowing that are politically and culturally constructed with sets of interests, beliefs, and values (Orland-Barak, 2009; Young, 2008). One of the authors, the researcher, and the advisor of three participants advised during the last quarter of the program but did not pay attention to this issue. Learning from the dialogue as a form of research interview reminded us, researchers and teacher educators, of the significance of dialogue in teaching research.

Second, a balance of power between teacher educators and teacher researchers through dialogues should be maintained. The research project offered the inservice teachers the freedom to choose, which allowed them to engage in inquiry of problematic issues that arose from their practice. Therefore, the inservice teachers engaged in an inquiry based on their own goals rather than as a result of being taught to adopt the "best" practice from a top-down approach (Ostorga & Estrada, 2009). Through the recognition of being the owner-consumer of their own research, the inservice teachers can be equipped with the power to connect theory and practice in their classrooms, which will prepare them to become "adaptive experts" (Darling-Hammond & Bransford, 2005). Maintaining a balance of power between teacher educators and teacher researchers through dialogues can promote better understandings and applications of action research. To provide such learning opportunities, faculty members need to make collective efforts to encompass a view of action research as a paradigm for change, which signifies various forms of powerful knowledge (Young, 2008) and the search for various pedagogical strategies to support inservice teachers to develop action research.

Third, the dialogue needs to happen in multiple ways in various contexts. In a teacher education program, a teacher educator can provide abundant exemplary action research to encourage inservice teachers to search and review various action research and to lead discussions with explicit questions about research types, elements, and quality. This type of dialogue can occur throughout the program and be incorporated into other courses collaborating with other teacher educators.

Dialogues can also take place in teacher researchers' classrooms in a form of collaboration that is parallel to "guided participation" (Rogoff, 1990) with considerations of social situations. Guided participation refers to learners and more skilled partners' involvement in a collaborative process of transforming present understandings to new understandings in the learners' community. The participants learned about action research in their teacher education program and conducted their research in their own classrooms. This learning in different contexts may be discrete unless there is conscious effort to make connections. Guided participation can play a significant role in bridging the two. After graduation, when the participants were asked whether they conducted or were willing to conduct research, all of them answered that they would not conduct any research (the same as that they conducted for their MA degree) soon (Interview, June 2011). Action research they learned as a high-stake assessment in an MA program with different purposes and rigid deadlines did not seem to promote continuous research.

Both teacher educators and teacher researchers can be skilled partners as well as learners in the process of guided participation. Through collaborative guided participation, teacher researchers can learn research skills

and teacher educators can understand the issues teacher researchers may encounter in conducting research while teaching. In addition, collaborative guided participation can be a solution for the issue regarding the incorporation of various elements of action research that was mentioned by the participants, such as cyclic and collaborative elements. They can work together to find better ways to conduct action research that fits the classroom situations as well as improves teaching practice.

Through such dialogues, inservice teachers and teacher educators share and critically examine their own paradigmatic beliefs and have opportunities to develop understandings of action research. From these dialogues, inservice teachers can broaden and deepen their understandings about action research and make better epistemological and methodological decisions for their research, and teacher educators can better support inservice teachers by listening and assessing their knowledge about research. According to Reason (2006), "Quality in action research will rest internally on our ability to see the choices we are making and understand their consequences and externally on whether we articulate our standpoints and the choices we have made transparently to a wider public" (p. 190).

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