ACTION RESEARCH: A TOOL FOR IMPROVING TEACHER QUALITY AND CLASSROOM PRACTICE

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Abstract

This paper examines the experiences and insights of 34 graduate students in an elementary education master's degree program as they engaged in an action research project during two required action research courses over a year's span. Data were analyzed according to the following two research questions: 1) What do teachers report as the most difficult parts of the action research process? and 2) How does participation in action research impact teachers' current and future instructional practices? Data were collected using a survey instrument. Implications and recommendations for future research are presented.

Introduction

Action research is a tool that is used to help teachers and other educators uncover strategies to improve teaching practices (Sagor, 2004); it is a viable and realistic endeavor for all educators. Action research requires teachers to design a study in an area of interest that they would like to carry out in their classrooms or schools. Many times, action research is considered a professional development opportunity because, frequently, teachers test a new instructional strategy, assess a new curriculum program, or evaluate an existing pedagogical method. In many research studies, participating in action research has been found to be the impetus for positive change exemplified by teacher improvement, self-reflection, and overall learning that enhances classroom practices (Ferrance, 2000; Johnson & Button, 2000; Ross, Rolheiser, & Hogoboam-Gray, 1999; Sax & Fisher, 2001). These forms of change may impact teacher quality.

This study looks at the role action research may play in creating positive change in teachers' practices. It examines the experiences and insights of 34 graduate students in an elementary education master's degree program as they engaged in an action research project during two required action research courses over a year's span. The study follows students from the proposal stage through the final presentation stage. In phase one, data were collected after the introductory action research course where students prepare a proposal for their own research. Data were collected again at the end of the second course, after students had executed the research study, collected, analyzed, and reported their data; this paper focuses on the second phase of the project. The two guiding research questions were: 1) What do teachers report as the most difficult parts of the action research process? 2) How does participation in action research impact teachers' current and future instructional practices?

Literature Review

This review examines the role of research in teachers' classrooms. Specifically, action research is defined as one form of meaningful research that can be conducted by teachers with students, colleagues, parents, and/or families in a natural setting of the classroom or school. Action research allows teachers to become the "researcher" and provides opportunities for them to be learners by improving instructional practices and reflecting about pedagogical choices as well. Following is a review of the role of action research in teacher improvement.

Role of Action Research

What role does research play in a teacher's classroom? It is often heard that many practicing classroom teachers are too busy to read research studies, let alone conduct research. For many practitioners, research appears to be a complex set of steps too difficult and time-consuming for classroom teachers to participate in or lead. Teachers who are immersed in their own classrooms may

find research irrelevant because there is little research written by practicing teachers, and many times it does not relate to the daily activities in classrooms (Ferrance, 2000; McBee, 2004). However, research is conducted in many educational settings and often has a positive impact. According to McBee (2004), "classrooms that become laboratories are better classrooms" (p.157) because, as Johnson (2005) explains, research is not effective if it is perceived by teachers as an edict that is passed down from researchers to practicing educators, but is much more effective when it is constructed with personal relevance.

Action research is a form of research that is authentic and meaningful to the teacher-researcher because it is conducted by the teacher in his/her own classroom space. Action research helps teachers to "pick up threads suggested in academic circles, and weave them in their own classroom" (Ferrance, 2000, p.13). Johnson and Button (2000) cited one teacher researcher who stated, "I never thought before that what was going on in my classroom could be considered research or thought of as research or respected as research" (p.116). Action research allows teachers to take ownership over their teaching and occurs when teacher researchers contemplate a classroom or instructional issue, design a study, execute the study, track data and results, and reflect. The action research progression is interactive; it is not a passive process, as teacher-researchers are active constructors of knowledge (Abdul-Haqq, 1995; Miller & Pine, 1990; Williamson, 1992). As teachers construct new knowledge while linking prior knowledge, learning occurs.

Teacher Learning and Instructional Improvement

Action research provides an avenue for teacher learning. In Johnson and Button's 2000 study, teachers noticed the links between their own learning and the learning of their students, affirming that the principles of good learning that they used with their own students applied to their own classrooms. They found by using action research, teachers began to appreciate their own ability to increase knowledge through their own projects. According to Sax and Fisher (2001), action research allows teachers the opportunities to identify changes they need to make in their teaching practices by providing teachers with the framework to build their own classroom projects. In many cases, when teachers design their own action research projects, they use a systematic approach to ascertain answers to instructional questions or issues. This type of implemented professional development is powerful because it is ongoing, interactive, and systemic.

Teacher improvement and teacher change occur as teachers learn more about their teaching and instruction. According to McBee (2004), the quality of teaching can be improved if teachers use their own research experiences much as the teachers in Johnson and Button's 2000 study found their ways of thinking shifting to improve their instructional practice. Several additional research studies mention that action research is the impetus for teachers' changes, including changes in their pedagogy, changes in their thinking, and changes in their confidence, which leads to professional growth and improvement (Johnson & Button, 2000; Ross, Rolheiser, & Hogoboam-Gray, 1999; Sax & Fisher, 2001). By utilizing the action research process, teachers not only learn about students and colleagues, but also they learn about themselves as they seek ways to continually improve (Ferrance, 2000). For some teachers who have conducted action research, new roles begin to form as they become mentors to other teachers (Sax & Fisher, 2001). Johnson and Button (2000) found that engaging in action research is a natural activity that gives teachers a sense of order in their daily classroom practices.

Customarily, the role of research for teachers has been "that of a consumer of someone else's research results" or as "the object" of what is being researched, instead of an active participant in the research design and data collection (Johnson & Button, 2000, p. 108). Action research provides teachers the opportunity to devise an intentional and systematic plan in order to closely examine their practice. Conducting action research puts teachers in control of their professional development. When teachers have ownership of the research process, specifically action research, learning can occur in numerous ways including trying new strategies, evaluating existing programs, expanding instructional repertoires, engaging in professional development, and most importantly helping teachers develop new pedagogical knowledge (Hensen, 1996).

Action Research Phase One: Background Information

The first phase of the study examined the experiences of a total of 51 part time and full time graduate students enrolled in three separate sections of the first action research course, in a series of two, at a large public research university in the southeastern United States. The course is a requirement for all students obtaining an Elementary Education Masters degree. During the initial action research course, students were required to demonstrate familiarity with current issues and trends in elementary education, examine stages of professional growth and development for teachers, conduct a self-analysis of individual teaching and professional growth, and architect an action research proposal, aligned with individual teaching and professional growth goals, that would be conducted in their elementary classrooms or in elementary classrooms of colleagues. Students presented their action research proposal to a faculty panel in the Summer or Fall of 2004. During phase one, the data collected were required components of the action research course. All the students signed consent to allow the researchers to use their responses for research purposes.

Following the presentation of the action research proposals, the researchers collected reflective summaries from each student during the final weeks of the course. Reflective questions included: What is the most important concept you have learned thus far about action research? What parts of the action research process are most likely to present a higher degree of difficulty to you: writing the research question, reviewing the literature, planning the methodology, analyzing the data, or considering the implications for teaching? Why? What changes do you believe you will make in your teaching career based on your action research project? And, what do you believe will be the long-lasting effect of your action research project on your teaching?

Data were analyzed using qualitative methods. Findings in phase one were placed into two categories: what students had learned from creating an action research proposal and what influence the course experience may have had on their current or future teaching. The most frequently mentioned responses about what they had learned follow: 1) they considered action research as a tool to help them improve teaching practices, 2) they learned the process and importance of designing research, in particular looking at important, meaningful classroom issues, and 3) they learned the value of reliable, and sometimes multifaceted, methodological practices. Phase one findings concluded with four main themes. When asked what influence this experience had on their current or future teaching practice, these themes appeared: 1) changes that occurred or that are likely to occur in their classroom, 2) changes that occurred or that are likely to occur in their school system, 3) development of a more reflective stance as a practitioner, and 4) development of their personal and professional knowledge base. The importance of the role of reflection, making informed decisions and feeling of empowerment were also woven throughout the data results in phase one.

Methods

This design for this research study is qualitative in nature and uses content analysis and descriptive statistics; it closely follows the characteristics of an action research design. Action research design is systematic, occurs in an educational setting, focuses on the researchers' teaching, and is practical and relevant. This study followed the four-stage method in action research as proposed by Mertler and Charles (2005): planning, acting, developing, and reflecting. Mertler (2006) states that action research is a process that improves education by incorporating change, and it involves educators working together to improve their own teaching practices. The researchers conducting this study worked collaboratively and used the results to make instructional changes in their graduate action research classes.

Sample: Setting and Participants

This study was conducted in three sections of a graduate level course occurring during the second course in a series of two. The actual execution of the approved proposal, as well as collecting data, analyzing data, and reporting results to a university faculty panel for approval were components of the second course. There were a total of 32 practicing teachers/part-time graduate students and two full time graduate students included in this phase two portion of the study. Typical course enrollment ranged from six to 19 graduate level students in the three sections used in the study. The number of years of teaching experience varied among students.

Each student completed a final action research project. Some action research titles included the following: 1) Does the implementation of a [standards-based mathematics program] increase students' mathematical understanding and achievement in the application of skills in fractions, area, and data more than the comparison textbook-based curricula? 2) In what ways are the after-school tutorial sessions that I conduct with my at-risk students effective in helping them improve reading skills? In what ways can I improve the helpfulness of the after-school tutorial sessions for my students? 3) Is there a significant difference between the performance of [Rock Elementary] fourth grade students on textbook assessments in science who use graphic organizers with the science textbook and those who do not? 4) In what ways is anxiety felt by students, teachers, and parents in three different third grade classrooms surrounding the North Carolina End-of-Grade Test [A Statewide Assessment]? and 5) Does unacceptable behavior in a third grade class at [Sanderson Elementary] decrease when classical music is played during independent and group work activities?

Survey Instrument

The 14-item survey was divided into three sections of questions. (See appendix A.) The first part of the survey consisted of five Likert scale items. The respondent was asked to rate the difficulty he/she experienced with components of the action research process which included: a) defining the research question, b) writing the literature review, c) developing and writing the methodology, d) analyzing the data, and e) organizing and writing the findings. The rating scale for section one was a five-point Likert scale. The numeral five indicated "extreme level of difficulty," a four indicated "high level of difficulty," a three indicated "moderate level of difficulty," a two indicated "low level of difficulty," and a one indicated "no difficulty." After each question in the first section, a space was available for the respondent to explain his/her reason for choosing that level of difficulty.

The next section consisted of five statements regarding the value of their action research experience. Respondents ranked their agreement with each statement. Similar to section one, a three-point Likert scale was utilized in this section. Circling a numeral three denoted that the respondent agreed with the statement. Choosing a numeral two meant a respondent did not feel strongly either way, and marking a one signified the respondent disagreed with the statement. The statements follow: 1) Action research is valuable to the teaching and learning process for me as a teacher, 2) Action research is valuable to the teaching and learning process for my students, 3) This action research project positively impacted my students' learning, 4) This action research project positively impacted my teaching, and 5) I view myself as a teacher-researcher. Again, following each statement, a space was provided for the respondent to explain his/her choice.

The final section of the survey had four open-ended questions. Three of the questions asked how participation in action research had impacted their professional careers, teaching, and instructional practices. One question asked about issues that arose during the implementation of the action research project and how he/she solved them. Space was provided after each question for written elaboration.

Procedures and Data Collection

Before the study began, Institutional Review Board (IRB) approval, required for university research in order to protect the rights and welfare of human subjects, was granted. Consent for participation was received from all students. The surveys were given in three sections of the second course. Two sections allowed the students to use the digital drop box, an electronic submission tool on Black board, the university's course management system, while one section used hardcopies. A graduate assistant transferred the open-ended questions on the hardcopies into a Word document for analysis.

Data Analysis

Data from the surveys were examined using qualitative analysis techniques, specifically content analysis. Content analysis entails developing categories and then counting the frequency of instances when those categories occur (Silverman, 2001). According to Gall, Borg, and Gall (1996) there are several steps involved in content analysis. This research study followed the subsequent steps: 1) Researchers identified relevant questions to analyze, 2) Researchers developed a category coding procedure, 3) Researchers conducted the content analysis, and 4) Researchers interpreted the results.

In this research study, the following items were identified as relevant to analyze using the content analysis approach: the second half of the survey questions one through five that stated, "Explain your

reason(s) for choosing that level of difficulty," the second half of survey questions six through ten that stated, "Explain your choice," and the final four open-ended questions, numbered 11 through 14. These data were examined by coding and creating categories. Two of the researchers met to review and code responses. Categories were developed based on a review of the data and investigators noted differences and similarities within categories. As unanticipated patterns appeared in the data, researchers formed new categories (Marshall & Rossman, 1999). Additionally, descriptive statistics were calculated for survey questions one through ten from the Likert scale. Means were specifically calculated and used in this study.

Findings

Data were analyzed according to the two guiding research questions: 1) What do teachers report as the most difficult parts of the action research process? and 2) How does participation in action research impact teachers' current and future instructional practices? The findings are organized according to the research questions. Each of the questions is discussed in the following section.

Difficulties in the Action Research Process

The first research question, concerning what teachers report as the most difficult parts of the action research process, is addressed using the Likert scale mean scores. The data suggest that defining the research question, writing the literature review, developing and writing the methodology, and organizing and writing the findings were moderately difficult tasks for the respondents. Respondents rated analyzing the data as a task with a moderate to high level of difficulty. Table 1 displays the mean scores as a representation of the perceived level of difficulty for the action research process components.

Table 1
Perceived Level of Difficulty Mean Scores for Action Research Components

Action Research Process Stage	# of respondents	Mean
1. Defining the research question	34	2.7*
2. Writing the literature review	34	2.9*
3. Developing and writing the methodology	34	2.8*
4. Analyzing the data	34	3.5*
5. Organizing and writing the findings	34	2.7*

Note. * indicates the mean is calculated on a 1 through 5 Likert scale with 5 being an extreme level of difficulty.

Defining the research question. The first component, defining the research question, had a 2.7 difficulty average. Having difficulty designing the exact wording for the research question was one theme that appeared in 50% (n=17) of the answers. One student commented that, "The wording was tricky at first—I knew what I wanted to do, just not how to word it." Another theme that occurred, and was the second most frequently mentioned response when respondents elaborated with reasons in the space provided, was that respondents focused their research questions around classroom issues. One respondent said, "I thought about my students and what they were having trouble with in the classroom." Another respondent stated, "I already knew an area of my teaching in which I wanted to improve my teaching strategies." Overall, defining the research question was moderately difficult.

Writing the literature review. The next action research component, writing the literature review, had a mean score of 2.9 indicating a moderate level of difficulty. Several respondents expressed appreciation that the professors provided examples of literature reviews. The majority of the respondents (n=25) mentioned one of two themes: difficulty in finding articles, especially current ones, and the large amount of time it took to organize the literature, integrate it into themes, and use the American Psychological Association (APA) format correctly. Professors had several informal conversations about how to assist students with their literature reviews. Specifically, professors spent

class time on how to prepare a literature review, called the university library for resources, and modeled for the students how to find print articles, in addition to full-text online peer reviewed pieces.

Developing and writing the methodology. The third component listed was developing and writing the methodology. With an average of 2.8, it was considered another step in the action research process at the moderate level of difficulty. Respondents most frequently mentioned that detailing and thinking through the methods for the studies was difficult (n=12). One student stated, "I found the most difficult part of putting together the methodology section was deciding when and where I was going to fit everything in… It was also hard to think, rethink and then rethink again (the research) methods." Although, the researchers did not specifically ask if this was a new skill, this theme appeared. Eight students mentioned that developing a methodology was a new skill for them. Knowing that the master's degree course sequence does not include another research design course, it is understandable that this was the first time students had been exposed to, and required to design, a methodology for an individual study. The next most prevalent response (n=7) were students stating that they appreciated instructor help during this stage of their action research development. One student stated that it would have been even more difficult if the professor had not helped. Respondents also mentioned valuing the examples and models provided to them.

Analyzing the data. Analyzing the data, the fourth component in the survey, had a mean score of 3.5. Students (n=15) most frequently commented that making sense of the data (i.e., knowing how to pull it together, knowing how to present the data, knowing exactly what to do during the analysis) was the most difficult part. For example, one student stated, "…making sense of all the data I had, took organization. Once I had a systematic way of looking at all I had, it was easier to compile." Nine students mentioned the analysis process was overwhelming for two reasons, it was time consuming and/or they had collected large amounts of data. For example, a student said, "Analyzing the data was one of the most difficult things for me. I think the biggest reason was I had so many pieces of data to analyze." Five of the respondents commented that the lack of statistical understanding made the analysis complicated. A respondent stated that analyzing the qualitative data (in her study) was easier than analyzing the quantitative data. Students mentioned that they did not feel prepared for the statistics involved, including how to present the statistics in figures and/or tables.

Organizing and writing the findings. The final component in the action research process was organizing and writing the findings; the item received a rating of 2.7. Overall, the most frequent response (n=16) was that organizing and writing the findings, in particular for the students who collected large amounts of data, was time consuming. One comment included, "I also resorted back to my bonus room floor and spread everything out. Putting it together was tedious." Seven students mentioned that writing the findings was easy. Six additional students stated that the help they received and having examples to peruse made it a much easier step in the overall process. One student stated, "I had good models to go by supplied by the advising professor." Another student relished in her success, "Once I got focused on what was really needed here, it went well. The findings were really interesting because while working on them, I realized what I had really accomplished…"

According to the mean scores, students found defining the research question and writing the findings as the least difficult steps and analyzing the data as the most difficult step in the action research process.

Value of Action Research

Respondents were asked to rate their level of agreement regarding five statements related to the second research question about how participation in the action research process has impacted their current and future instructional practices. A level one indicated the student disagrees with the statement. A level two indicated that the student is neutral and does not feel strongly either way in regards to the statement, and a level three indicated the student agrees with the statement. Table two displays the mean scores for the action research impact statements.

Table 2
Mean Scores for Action Research Impact Statements

Statement	# of respondents	Mean
1. Action research is valuable to the teaching and learning process for me as a teacher.	34	2.8*
2. Action research is valuable to the teaching and learning process for my students.	34	2.8*
3. This action research project positively impacted my students' learning.	34	2.6*
4. This action research project positively impacted my teaching.	34	2.9*
5. I view myself as a teacher researcher.	34	2.4*

Note. * indicates the mean is calculated on a 1 through 3 Likert scale with 3 indicating agreement.

Action research is valuable to the teaching and learning process for me as a teacher. When respondents were asked to indicate their agreement with the statement, "Action research is valuable to the teaching and learning process for me as a teacher," there was a high level of agreement with an average of 2.8 on a three-point Likert scale, with three indicating agreement. No one chose a one, seven respondents chose a two, and 27 respondents circled a three indicating agreement with the statement. Students most frequently commented that action research was a tool that helped them look closer at their own teaching. Some comments included, "I definitely think (action) research is valuable to the teaching and learning process for me because it has made me more aware of the way I teach and the strategies I will use…," "Action research can be a valuable tool and personally, I learned a lot from the experience. From this project, I found myself paying closer attention to learning situations within the classroom as they occurred," and "Instead of complaining about my students lack luster engagement with reading, I did something about it! I changed what I was doing to better meet the needs of my students. The action research provided me with the initiative and tools to make a change." Overall, students agreed that action research was a valuable teaching and learning process.

Action research is valuable to the teaching and learning process for my students. Respondents agreed with the statement, "Action research is valuable to the teaching and learning process for my students." Twenty-eight students agreed with the statement by choosing a three on the Likert scale. Only six students chose a two, indicating impartiality and no one chose a level one. With an average of 2.8, the majority of respondents agreed that action research was a valuable process for their students. Most respondents commented that finding out what works best with students actually benefits them because if the teachers can provide better teaching, then the quality of the classroom instruction and learning will improve. One respondent sums up the majority of the responses, "Providing the best teaching will impact the learning process of our students."

This action research project positively impacted my students' learning. The average for this statement was 2.6. Two respondents chose a level one indicating disagreement with this statement. Eleven respondents circled a two indicating neutrality and 21 students indicated they agreed with a three. Some of the teachers mentioned that not all the students' learning was impacted because not all students were getting the same instruction (i.e., experimental groups, control groups). Some teachers commented that more impact may be seen next year when they implement a program or instructional strategy with the entire group. For example, "I think there was some impact for my students this year; however, I know what I need to do for next year and I think I will see impact then." On the other hand, many teachers commented that there was an immediate impact on their students because first, they (the teachers) were able to give more effective instruction and second, the children were excited about a new strategy. One teacher commented, "They (the children) were truly excited about science being presented in such a way. They wanted to do science every day." Another said, "This project was a positive impact on my students because it helped me in determining effective, new teaching styles for implementing in conjunction with my current writing instruction." Similar comments regarding providing effective teaching to impact student learning were mentioned when rating the second statement mentioned in the prior section.

This action research project positively impacted my teaching. Overwhelmingly, the respondents agreed with this statement. Ninety-one percent (n=31 out of 34) of the respondents agreed that the action research project positively impacted their teaching. Teachers most often mentioned using what they learned in their action research projects to make adjustments to instruction, look at content differently, or utilize new instructional strategies. One respondent mentioned, "I found a new way to teach spelling." Another respondent said, "It gave me the opportunity to look at writing differently." Finally, "I was able to make adjustments in planning to best meet the needs of my students based on the findings of my action research." Respondents became more cognizant of their teaching. This statement had the highest average with a 2.9.

I view myself as a teacher-researcher. The statement, "I view myself as a teacher-researcher" had the lowest average, 2.6, and received the most one and two level scores. Only 17 out of the 34 respondents rated this statement a three, indicating agreement. For those students who agreed, most responded that completion of this project gave them more confidence and that they would continue to actively research best practices. One teacher said, "I have agreed to enter two new studies as part of teacher development as a result of this course." Another mentioned that she is constantly in search of new ways to make students' learning more meaningful and innovative. In contrast, some respondents mentioned that completing the action research process was work-intensive and that they were still new at the research process. One teacher said, "I have only done this one research project. I think it would take more for me to consider myself a researcher, per se." Others agreed by saying it was a tremendous undertaking; but hoped to get better at being researchers with more practice.

Impact on Teaching Practices

Both research questions were addressed using the qualitative responses from the open-ended survey questions. Respondents were asked to describe how the completion of their action research projects would impact their teaching. Data were organized into three categories: long-lasting career impact, confidence/empowerment impact, and daily instructional impact.

Long lasting career impact. When asked to describe the long-lasting effects the action research project would have on their professional career, the theme of change appeared most frequently in the students' answers. Students' responses focused on the fact that they have changed/will continue to change as a teacher. For example, students commented, "I [hope I will] continue to take risks with future groups of students to try different instructional methods," and "I will continue to use strategies that I learned from this process." One student summed up the change theme by noting, "and what was empowering to me was how simple it was to make a change." Students spoke favorably about change. They were willing to change, and there was no indication that they worried someone would prevent instructional changes they wanted to make.

Students also mentioned changing their views in regards to trusting new programs or trying new strategies. "I think I'll be less likely to accept marketed educational program claims unless I see the supporting research." Another student said, "it [action research] has reshaped how I look at new programs. I look at the research and determine if it fits the needs of my students." Basing instruction upon the needs of students and questioning the validity or reliability of educational programs or products were valuable outcomes of the action research process.

Confidence/empowerment impact. When the students were asked how the action research experience empowered them or their teaching, the overwhelming response was that they perceived themselves as more effective teachers. Repeatedly, comments were made regarding being a more aware and confident educator. One student claimed, "This research experience has increased my awareness of carefully analyzing students' work. I found themes and patterns emerged in my classroom that I would not have been aware of if it had not been through the careful analysis of the quantitative and qualitative data." Other students' responses included, "It [action research] has made me even more aware of my students' needs," and "I feel more confident now when I try new things. At first I thought everything I tried had to have a positive outcome. I realized through research that may not always be the case." Action research appears to be a professional development opportunity that is affecting teachers in positive ways, including building confidence and autonomy.

Daily instructional impact. Respondents answered a third open-ended question about how their action research project has informed instructional practices. Again, the most frequently mentioned answers were focused on awareness to change daily practices and an increase in daily reflection. Some students bluntly stated that they now needed to change some of their daily pedagogical practices after completing the action research process. Student responses included, "I definitely need to change some of my instructional practices. As I stated before, I realized that learning and teaching could still be fun," and "My action research lets me know that I have to change a few of my instructional practices so my students can receive a better understanding."

Students also spoke about how the action research process was instrumental in affirming and/or confirming daily instructional practices. For example, "My research actually confirmed some of my instructional practices for me. It also opened doors to new ideas I had not thought of before, but will use again," and "This research has confirmed the idea that children do learn more effectively through active learning. Children benefit intellectually, socially, and emotionally through the interaction with one another and with me." One student specifically spoke about the self-editing strategy in writing, "This research has enabled me to see which instructional practices are important when teaching writing. I saw that self-editing is not as effective for struggling writers. I learned that in mini-lessons I need to teach more about how to edit and proofread written work." Results indicated that respondents have actively constructed better understandings about their daily teaching practices.

Next, daily reflection appeared as a theme in the daily instructional impact category. One student stated, "It has caused me to be more reflective in my teaching." Additionally, students' responses included, "I now look at things in a different way. I realize the importance of searching and searching to find the right answers to a particular problem or situation," and "It [action research] caused me to begin to question myself more as to "why" students are performing better or worse when teaching using a specific strategy." Within instruction, reflection appeared to make a difference to the students.

Finally, respondents were asked what issues arose for them during the action research process. The first theme that appeared was unexpected issues. Nineteen students stated a wide range of unanticipated issues they encountered that were out of their control. Examples included inclement weather, study participants who transferred or moved, parent issues, scheduling around the Reading First federal grant program, making adjustments to timelines because blocks of content time were being used for literacy, and children losing research study materials. The next most frequently mentioned (n=7) issue was time. Although the research transpired in their classrooms, in most cases, there was still reference to the vast amount of time spent completing the project. The next issue acknowledged in the responses was the difficulty with the data analysis. Six respondents said that they struggled with analyzing the data. One student commented, "[I have] little background and understanding of statistics in general." Another student said that the computer software that she wanted to use was down. Unpredicted experiences, time, and data analysis were the top three issues that arose for respondents during the action research progression.

Implications and Conclusions

The outcomes of this study leads to two general conclusions about the action research process: action research is an effective professional process that impacts daily and/or future teaching, and the action research process elicits change.

First, participating in action research impacts teachers' daily and future instructional practices. According to Parsons and Brown (2002), the benefit of action research is that it leads to improvements in educational practice. It is obvious that the participants in this study valued action research as a worthwhile tool that impacted their teaching. In this study, teachers consistently commented that the action research process made them more aware of their teaching practices and more cognizant of their students' needs. Most importantly, teachers specifically discussed how the action research process confirmed, affirmed, or expanded particular instructional practices and curriculum programs. Teachers also mentioned that the action research process made them more aware of new strategies and confident to try them. Ferrance (2000) and Sax and Fisher (2001) found similar results; action research gives teachers more confidence in their own work. Teachers appeared empowered and confident in regards to daily and future pedagogical practices and decisions.

Action research can empower teachers to change by pushing a teacher out of his/her comfort zone. Many times, for personal and professional growth to occur, being pushed out of a comfort zone is challenging. These challenges are necessary, particularly related to classroom practice, in order to lead to positive change. Action research puts the teacher in many new roles, teacher as researcher, teacher as decision maker (Mertler, 2006) and teacher as change agent. Implementing the action research process has helped inform daily instruction, and has transformed, changed, and expanded teachers' curriculum perspectives, choices, and thinking.

The completion of action research projects was instrumental is changing teachers' practices; however, as with any new endeavor or large project, a time commitment is involved. Similar to other research studies (Auger & Wideman, 2000; Johnson & Button, 2000), teachers perceived the action research process as time-consuming and overwhelming. In particular, the data analysis stage tended to be the most difficult step for teachers in this study. For that reason, the researchers advocate school-level teacher support for action research studies. Schools need to be knowledgeable about the professional development opportunity that action research offers, but also realize that support during the implementation steps of an action research study, specifically, during the data analysis phase, is essential to the teacher's and school's success. Additionally, there may be a need for universities to embed an educational statistics course that aligns with action research within graduate teacher preparation programs to ensure a stronger understanding of statistical analysis during the action research process for graduate students.

Future Research

Future research considerations for university educators include a longitudinal study. Students in this particular study took part in the action research process because it was a course requirement for their master's degree. A possibility for future research is to determine if these teachers conduct future action research projects on their own without earning university credit, and if so, in what ways is their teaching being impacted? Additional research could look at how the children benefit from action research. Furthermore, implementing action research as a school-wide professional development opportunity would allow many self-studies to occur at once, thus building school-wide improvement. Research related to school-wide action research could be another avenue to explore.

Action research is a valuable experience in the teaching and learning process. When teachers design a study and collect data, they become decision makers. This leads to teacher empowerment which occurs when teachers become the leaders, the researchers, and the decision makers, all outcomes of the action research process. Such teacher empowerment allows teachers to implement instructional programs that best meet the needs of their students (Johnson, 2005; Mertler, 2006). This is, of course, the ultimate goal of any educational endeavor. Action research provides teachers a strong and powerful tool in which to accomplish that goal.

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Appendix A

ACTION RESEARCH SURVEY

Please read all directions carefully before completing each section of the survey.

Please rate the difficulty you experienced with the following components of action research using the following scale:

- 1 indicates no difficulty
- 2 indicates a low level of difficulty
- 3 indicates a moderate level of difficulty
- 4 indicates a high level of difficulty
- 5 indicates an extreme level of difficulty

1. *Defining the research question*

(no difficulty) 1 2 3 4 5 (extreme difficulty)

Explain your reason(s) for choosing that level of difficulty.

2. *Writing the literature review*

(no difficulty) 1 2 3 4 5 (extreme difficulty)

Explain your reason(s) for choosing that level of difficulty.

3. *Developing and writing the methodology*

(no difficulty) 1 2 3 4 5 (extreme difficulty)

Explain your reason(s) for choosing that level of difficulty.

4. *Analyzing the data*

(no difficulty) 1 2 3 4 5 (extreme difficulty)

Explain your reason(s) for choosing that level of difficulty.

5. *Organizing and writing the findings*

(no difficulty) 1 2 3 4 5 (extreme difficulty)

Explain your reason(s) for choosing that level of difficulty.

Please answer the following by circling the appropriate number indicating whether you disagree, are neutral, or agree with the statement.

- 1 indicates you disagree with the statement

- 2 indicates you do not feel strongly either way
- 3 indicates you agree with the statement

6. *Action research is valuable to the teaching and learning process for me as a teacher.*

(disagree) 1 2 3 (agree)

Explain your choice.

7. *Action research is valuable to the teaching and learning process for my students.*

(disagree) 1 2 3 (agree)

Explain your choice.

8. *This action research project positively impacted my students' learning.*

(disagree) 1 2 3 (agree)

Explain your choice.

9. *This action research project positively impacted my teaching.*

(disagree) 1 2 3 (agree)

Explain your choice.

10. *I view myself as a teacher-researcher.*

(disagree) 1 2 3 (agree)

Explain your choice.

Please respond to the following questions.

11. *Describe the long-lasting effects, if any, that you believe the action research project will have on your professional career?*

12. *In what ways has the action research experience empowered you and/or your teaching?*

13. *How has your research informed your instructional practices?*

14. *What issues arose for you while engaging in action research and how did you resolve them?*

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