OBSERVING ACTION RESEARCH PROCESSES IN PRACTICE

Adina O. Davidson

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Approved by:
Advisor: Dr. Jocelyn Glazier
Reader: Dr. Dwight Rogers
Reader: Dr. George Noblit
Reader: Dr. Amy Anderson
Reader: Dr. Mollie Lloyd
ABSTRACT

Adina O. Davidson

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(Under the direction of Jocelyn Glazier)

The purpose of the current study was to observe how teachers integrate action research processes into their instructional practice. While action research is often presented to teachers as a methodology, the processes used in the pursuit of research questions may provide a way of conceptualizing effective teaching practice. The two participants in this study were observed in their school environments and interviewed prior to and following the observational period. Qualitative methods included participant observation, interviews, and document review. Multiple methods were employed for the purpose of triangulating the observed action research processes in practice. In this collective case study data were collected, coded, and analyzed to interpret and describe how action research processes were employed in practice.

Participants in this study employed action research processes without a fixed order and informally in practice. Each case illustrated different ways in which action research processes were integrated into practice. One participant was observed to integrate action research processes in practice routinely though somewhat sporadically in her practice and focused on short-term practice related issues. The other participant was more systematic in her integration of these processes in practice. For her, integration of these processes was ongoing and often cyclical in nature. Systems for integration of action research processes were embedded in her practice. Contextual circumstances such
as planning time available to participants, class structure, student age, years of teaching experience, and curriculum requirements appeared to influence, in part, how processes were employed in practice. Overall participants demonstrated a broader application of action research processes that transcended the use of action research solely as a research methodology. Through observation of their practice, it was evident that participants, to varying degrees, adopted an action research stance with regard to their teaching.

Teachers who adopt an action research teaching stance systematically and connectedly: engage in reflection, question their instructional methodology, and routinely seek ways to improve their practice to more effectively meet the learning needs of their students by consulting other sources and using data to inform their practice. They view themselves as change agents and actively advocate for and effectuate change in their schools. Teachers who have the characteristics described above are likely to be more effective in meeting the learning needs of their students (Auger & Wildman, 2000).
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CHAPTER 1: INTRODUCTION

The research question guiding the present study is: How do in-service teachers demonstrate action research processes in their instructional practice?

As a teacher educator it is my belief that an effective teacher is one who routinely reflects upon her practice, takes risks, is open to critique, seeks to develop new understandings about teaching and learning, and applies what is learned to her practice. For this teacher, such actions are carried out with the goal of being more effective in meeting the learning needs of her students. Each of these characteristics can be linked to elements of action research.

Action research is typically introduced to teachers as a research methodology in teacher education programs. Often teachers are engaged in the practice of teaching while enrolled in action research courses. Generally these courses are project based; teachers are required to develop a question about their teaching practice and systematically engage in the processes of action research for the duration of the course as they investigate their practice related question. Throughout the course a teacher’s focus remains mostly on the action research project itself, not her teaching practice more broadly. Teachers enrolled in these courses come to know action research as a method for conducting research in their teacher education programs but what might these action research processes look like embedded within a teacher’s practice?

The literature on action research suggests that there are several benefits to employing its methods in practice. However, a majority of the findings are an outgrowth
of project based action research studies\(^1\). In other words, research of this sort is often conducted in classrooms in which teachers are engaging in action research projects as such. In considering the known benefits of incorporating action research in practice within the confines of project based contexts, I came to the following question: What if action research was applied more broadly to teaching practice? Could action research processes provide a framework for effective teaching more generally?

There is an extensive body of literature regarding what characteristics make for an effective or good teacher (Harris, 1998; Porter & Brophy, 1988; Walberg, 1986, 1990). Research on effective teaching focuses on specific teaching philosophies, teaching models, teacher management styles, specific teacher behaviors, and methods of conveying content to students (Harris, 1998; Porter & Brophy, 1988; Walberg, 1986, 1990). There is consensus in the literature suggesting that an effective teacher is one who is equipped with knowledge and skills from a variety of these areas. The effective teacher evaluates the learning needs of her students and content to be taught to determine which of methods described above are likely to be effective and then applies her pedagogical knowledge and skills accordingly (Harris, 1998).

A common element present across the literature regarding effective teaching is the notion that such teachers are reflective in their practice and continue to develop their knowledge about teaching (Harris, 1998; Porter & Brophy, 1988). These teachers are thoughtful about their practice and take time to engage in self-evaluation. They embrace the responsibility of fostering student learning (Porter & Brophy, 1988). “Good teachers reflect on the feedback that they get on the effects of their instruction. This reflection in

\(^1\) See for example the volume (June 2006) of Teacher Education Quarterly devoted to such action research studies.
turn enhances their professional knowledge and affects their future instructional planning” (Porter & Brophy, 1988, p. 75).

These elements of effective teaching practice are reflected in the action research literature, though in a fairly limited sense in that they are identified relative to a teacher’s work on a particular research project. If the application of action research practices were extended more broadly in practice, these practices could provide a framework for effective teaching. Viewing teaching through the lens of action research practices might facilitate a more systematic approach to effective teaching. Currently, there is no single consensus as to what constitutes effective teaching, and often the definition of effective teaching is perceived to be context, grade level, or even subject specific. Using action research processes as a framework for teaching may enable us to consider what effective teaching looks like across traditional boundaries. Further, it might require that teacher educators reconsider how they teach action research so that it becomes a systematic approach to effective teaching to be applied to everyday practices which is embedded throughout teacher education programs rather than introduced solely as a research methodology. In order to consider the notion of action research as a framework for effective teaching, it is necessary to investigate how action research practices are carried out in practice, not simply as one works to complete an action research project.

The research question guiding this study, “how do in-service teachers demonstrate action research processes in their instructional practice?” is aimed to begin to explore the notion of action research as a possible framework for effective teaching.
Rationale

In this section I provide an overview and rationale for this research. The section includes (a) an introduction to action research, (b) the definition of action research guiding this study, (c) a discussion of how this study adds to the current literature relating to action research, (d) a brief description of the study focus, and (e) the role of the researcher.

Introduction to Action Research

A teacher’s ultimate goal is to support student learning and development. Teachers routinely encounter a variety of practice-related questions and often informally pursue related solutions, alternative perspectives, and new ways of understanding pedagogy. To more effectively meet the needs of their students, it is necessary for teachers to identify areas in their practice that require modification and further development, specifically with regard to their knowledge and underlying beliefs about teaching. These areas should inform their quest for resources that serve to foster further development of their understandings about teaching. To more effectively support student learning and development, information garnered from these resources and through the processes of identifying, gathering, and interpreting data, should then be integrated into practice. Teachers do not typically examine their knowledge about teaching or question their underlying beliefs about teaching in these ways (Cochran-Smith & Lytle, 1992; Cohen, 1995; Little, 1990). Action research is a mechanism for teachers to pursue the endeavor of becoming more effective in practice.

Action research is defined as a cyclical process of systematically reflecting on, evaluating, and making modifications to one’s own practice (Costello, 2003; McLean,
This type of research occurs in authentic settings (with students in classrooms), and in context-specific environments (e.g., in a classroom during literacy block) (Hopkins, 2002; McLean, 2005). Its focus is determined by issues that occur locally or within one’s own practice (Johnson, 2005; McLean, 2005). Systematic evaluation of reflection and observations is ongoing throughout the action research process and promotes the continuous questioning of the implications of one’s practice (McLean, 2005; Noffke & Stevenson, 1995; Schmuck, 2006). It is an empowering method for examining practice that may result in warranted action (Noffke & Stevenson, 1995; Schmuck, 2006). Understandings garnered from systematic evaluation of one’s own practice are then applied to student achievement and various issues within the school environment (Costello, 2003; Hopkins, 2002; McLean, 2005; Noffke & Stevenson, 1995).

Engaging in action research allows for investigation into issues related to one’s own practice. The process is systematic and takes place within the context in which practice related issues occur. This enables informed decisions about practice. Action research facilitates the notion that teachers can create new knowledge about teaching rather than relying solely on prior or others’ knowledge about teaching. Teachers regain (or perhaps gain for the first time) a sense of autonomy as they integrate research in practice. They begin to view themselves as “more than mere technicians who merely apply initiatives handed to them by others” (Kraft, 2002, p. 175). Engaging in action research can encourage teachers to move beyond common understandings of effective practice to practice that is based on empirical data (Merino & Holmes, 2006).

Understanding various action research processes (i.e., reflection in practice, reflection on
practice, developing open ended questions, reviewing the literature, engaging in data collection and analysis, and sharing knowledge with others) encourages teachers to evaluate their practice in new ways.

While there is substantial evidence in the literature suggesting that action research is a powerful means for teachers to redefine their notions about teaching and its employment is likely to result in teachers who demonstrate characteristics of more effective teaching, action research continues to be introduced to teachers in isolation and often in only one course (Henderson, Hunt, & Wester, 1999; Radencich, 1998). Specifically, action research processes are introduced and carried out as part of a research methodology and the focus of this work remains confined to specific practice-related questions (Radencich, 1998). Yet, when applied more broadly in practice these processes can be viewed as characteristically similar to those that facilitate student learning.

When teachers redefine their own relationships to knowledge about teaching and learning, they reconstruct their classrooms and begin to offer different invitations to their students to learn and know. A view of teaching as research is connected to a view of learning as constructive, meaning centered, and social (Cochran-Smith & Lytle, 1992, p. 317).

There are no claims made in the literature that these processes do not transfer more broadly into practice, but there is a lack of evidence regarding how these processes are employed beyond a confined set of practice-related questions into everyday teaching practice.

In addition to encouraging a sense of autonomy in teaching and new ways of evaluating one’s teaching practice, engaging in action research has the potential to encourage teachers to be more in tune with their students’ learning needs. Skills used in action research such as observation, documentation, analysis, reflection, and application
to practice are the same as those needed to examine student learning (Falk, 2004). Teachers who embrace this problem solving approach are able to effectively provide verified learning experiences to their students in a variety of teaching contexts (Falk, 2004).

Students’ individual learning needs are likely to be fostered more effectively when teachers identify and focus on what students know and more importantly how they come to know it. This extends beyond identifying a student's current level of understanding to addressing the student's individual learning methods and style preferences. Effective teaching occurs when a teacher pinpoints a student’s areas of understanding, areas in which there is room for growth, and understands how the student comes to know what she knows. With specific knowledge regarding how learning occurs for each student, a teacher is better equipped to determine how to convey course content. Her methodological decisions can then be based on what she knows about her student’s ways of understanding, and discernment of which methods are likely to be effective in relaying the relevant content to her student. Application of the skills acquired through the use of action research processes in practice often yield insights about student learning such as those described above.

How Does This Study Contribute to the Current Literature on Action Research?

There is a significant amount of literature addressing the importance of integrating action research into practice (Capobianco, Lincoln, Canuel-Browne, & Trimarchi, 2006; Cardelle-Elawar, 1993; Cochran-Smith & Lytle, 1999; Kraft, 2002; Merino & Holmes, 2006; Oja & Smulyan, 1989). Teachers who employ action research in practice are likely to be reflective in their practice, question their underlying beliefs
about teaching, demonstrate flexibility in practice, take risks, apply newly acquired knowledge about teaching to their practice, empowered, and view themselves as agents of change. A majority of the current literature related to how action research informs instructional practice relies heavily on teacher perception and self-reporting. These studies address issues such as how participating in action research courses influences teachers in their understandings of teaching (Falk, 2004; Merino & Holmes, 2006; Zambo & Zambo, 2006), their view of their roles as teachers (Capobianco, Lincoln, Canuel-Browne, & Trimarchi, 2006; Falk, 2004; Merino & Holmes, 2006), and prompts teachers to question their ways of knowing (Snow-Gerono, 2005). The results of these studies are informed by the analysis of interview data, reflective notes, self-report, coursework, and survey data, but minimal classroom observation (Capobianco, Lincoln, Canuel-Browne, & Trimarchi, 2006; Falk, 2004; Merino & Holmes, 2006; Snow-Gerono, 2005; Zambo & Zambo, 2006).

Findings from the aforementioned studies suggest that action research is a valuable vehicle for developing further knowledge and understandings about teaching. Participating in action research enables teachers to better make connections between theory and practice, engage in problem solving, and remain focused on student learning (Falk, 2004; Merino & Holmes, 2006). Engaging in collaborative action research in particular helps teachers develop an awareness of their underlying beliefs and assumptions about teaching and how those beliefs connect to their classroom practice (Capobianco, Lincoln, Canuel-Browne, & Trimarchi, 2006; Kraft, 2002). As teachers continue to integrate action research in practice, they develop understandings of what it means to know, relate that knowledge to their roles as teachers, and begin to view
themselves as educational change agents (Merino & Holmes, 2006; Snow-Gerono, 2005). As these studies suggest, engaging in action research is an important aspect of teaching. The known benefits of integrating action research into practice described above warrant further investigation into how these processes are demonstrated in everyday practice.

This study builds on the current literature regarding how action research informs instructional practice. It moves beyond teacher perception and reporting and includes a focus on direct classroom observation of how action research processes are integrated into instructional practice. This study also adds to the literature in so far as it provides a description of how teachers integrate these processes in ways that extend beyond the application of each of the action research processes as components of a research methodology. It provides insight into how these processes are reflected in aspects of teachers’ everyday practices.

**Study Focus**

The focus of this study is to identify ways in which action research processes are demonstrated in instructional practice. Its purpose is also to describe how the skills acquired from employing these processes in practice extend beyond the implementation of a research methodology and project. This is done through the identification and description of how these skills appear in everyday practice related contexts. This study also explores the notion of *action research as a teaching stance*, or an approach to teaching that entails the consistent systematic and connected use of action research processes in everyday practice related contexts to inform practice. Systematic use of these processes is defined as methodical, purposeful, and intentional. Connectedness represents moving back and forth between each of the action research processes in a
symbiotic manner as one examines an aspect of practice over time. Using these processes connectedly also entails pulling through a specific practice related focus across action research processes and simultaneously making related overarching links to that aspect of practice. Another goal of this study is to describe the ways in which incorporating action research processes in practice fosters effective teaching.

Participants were two teachers who had an understanding of action research and its processes\(^2\). To increase the likelihood that I would witness and be able to describe how elements of action research were integrated into practice during the observational period, I selected teachers who had demonstrated significant knowledge about action research as indicated in part by their successful completion of a course in action research and by their interest in the practices of action research. I followed these teachers into their classrooms a year and a half after they successfully completed an action research course, of which I was the instructor, to observe how action research processes were demonstrated in practice. The specific processes observed in teachers’ instructional practice were derived from the extant literature related to action research as described in chapter 2.

*Role of the Researcher*

The researcher is the primary research instrument in qualitative research (Marshall & Rossman, 1999). Cresswell (2007) suggests that it is important for a researcher to position herself in her research through incorporating a discussion of her role, including herself in the text, or including a reflection of her questions about the study itself. A researcher’s work is shaped by her experiences, gender, culture, and

\(^2\) Understanding of action research and its processes was demonstrated through reflections, coursework, and class participation during an action research course of which I was the instructor. A detailed description of the course is provided in Appendix B.
history. These aspects of who she is shape how she comes to her research questions and collects, interprets, and presents data (Cresswell, 2007). I chronicle some of my relevant experiences below with the intent of depicting the lens through which I approach my work.

A majority of the students at the high school I attended were from families of middle to high socioeconomic status. In most cases their parents and guardians were well educated and ensured that there were many educational resources available to their children outside of school. Many of these students, myself included, succeeded with minimal individual support from their teachers. During my high school years I was not motivated to work beyond what was required in any of my academic courses. I found myself frustrated and bored when a few students in my classes had difficulty understanding concepts and my teachers’ solution always seemed to be to continue to explain it exactly the same way over and over again, hoping each time that it would be the one that would make the students understand the material; it never was. Why didn’t my teachers try to convey the concepts using a different approach? To me it seemed like the only logical thing to do, but I was only a high school student, not a teacher.

My teachers made little or no effort to identify or make connections to my interests. It was not until my later college years that I learned that making personal connections between content and learners could increase student motivation and interest in learning. Looking back at my high school years, I speculate about the extent to which my peers and I may have excelled if our teachers had attempted to tap into our individual interests, made relevant connections to the content they were teaching, and modified
their methodology when what they were doing was not effective in conveying the course material.

My early college experience was similar to my high school experience. I was often bored in class and my teachers failed to capture my interest. My boredom spurred poor class attendance which eventually resulted in my failing out of school. It was not until I re-enrolled and identified a major in college that I began to identify ways to link my interests to the content on my own. It was my interest in providing students with schooling experiences that were different from mine and so many of my peers that drove me to return to school. I chose Special Education as my major because it was my belief that an effective teacher, to some extent, must provide individualized instruction to each of her students. I assumed that I would learn how to tailor curriculum to meet individual students’ needs as part of the curriculum for Special Education majors. Unfortunately, the program mostly addressed scripted curriculum, and direct instruction of that curriculum. Upon completion of the program I allegedly was prepared to teach kindergarten through fifth grade students with varying exceptionalities in all content areas. I was not prepared. As an example of how unprepared I was, I had only been required to take one reading course. The course addressed how to teach reading and did not cover any information regarding literacy development which would have provided me with a conceptual understanding of why something should be taught in a particular way. After graduation, I still felt like I needed a better understanding of how students learn and how to effectively meet their needs as individual learners.

My lack of readiness to teach after completing a master’s degree program was the impetus for my desire to figure out how to rework teacher education programs to better
prepare teachers. This brought me to focus on Literacy and Teacher Education in a doctoral program at UNC. Because my interest was in developing more effective teacher education, I wanted to learn about pedagogy and develop my content area knowledge to make sense of its application. I selected literacy as an area of focus because I view literacy to be a foundation for access to most content areas and thought it was broader in scope when compared to other content areas. While enrolled at UNC, I have both taken and taught several courses on Action Research. Prior to these courses I could not identify action research by its formal name, however it is clear to me as I look retrospectively that even in my high school years I recognized its processes as aspects of effective teaching.

It is my belief that effective teachers are those who routinely employ action research processes in practice. They are reflective practitioners who continue to question their ways of knowing, take risks in practice, and are open to critique. These teachers are flexible in their practice and strive to foster the development of their understandings about teaching with the goal of more effectively meeting their students’ learning needs. In this study, I set out to explore the notion of embedding action research processes systematically and connectedly over time in everyday aspects of practice as a tangible framework for effective teaching.
CHAPTER 2: LITERATURE REVIEW

The research question guiding the present study is: How do in-service teachers demonstrate action research processes in their professional practice?

The literature to be reviewed for this study will include: (a) an overview of the history of action research; (b) definitions of action research; (c) processes involved in engaging in action research in practice; (d) the results of using action research in practice on teacher instructional practices, knowledge about teaching, knowledge about their students; (e) qualities of effective teaching; and (f) the integration of action research into teacher education programs.

Brief History of Action Research

It is important to consider the context within which action research was developed and its various manifestations over time in order to better understand its place in the educational literature today. Noffke and Stevenson (1995) provide an overview of the history of action research from its inception and describe its evolution over time. The term action research was introduced in the 1930’s. John Collier and Kurt Lewin are often cited as pioneers of action research. Collier’s work used action research as a way to depict issues of “democratic forms of agricultural planning” (Noffke & Stevenson, 1995, p. 2). Lewin investigated social issues such as the changing nature of prejudice and democratic behavior through action research (Noffke & Stevenson, 1995). Lewin’s work was often situated alongside that of other scholars’ guided by issues related to being
more efficient and productive. More generally, the application of action research during this time often centered about a quest for understanding democratic behavior (Noffke & Stevenson, 1995).

Similar to its current procedures, the foci of action research studies were influenced by the needs and contexts within which the studies themselves occurred. The action research processes were implemented without a fixed order, cyclically, and included developing a plan, enactment of the plan, observation, and reflection regarding changes in social situations (Noffke & Stevenson, 1995). “Action research was and continues to be used to explore the role of social science in initiating changes not only in education, but in, for example, industry, community development, and the military” (Noffke & Stevenson, 1995, p. 5).

While action research has been used in broader contexts such as those described in the preceding paragraphs, the focus of the current study is on action research in the field of teaching. In its early stages the focus of action research studies in education centered around issues of democracy in schooling such as the work of Stephen Corey, and A. W. Foshay (Noffke & Stevenson, 1995; Zeichner, 2001). During the 1960’s federal calls and funding for new forms of curricula were initiated and the nature of action research changed. There was a decrease in focus on issues regarding democratic schooling and new attention was paid to personal and professional development. Also at this time McCarthyism was on the rise and there was a national call for more disciplined-focused curricula leaving little room for a national focus on action research (Noffke & Stevenson, 1995). A resurgence of action research occurred over the last three decades accompanied by renewed popularity, acceptance, a broader scope for its application, and
a wider representation of meanings associated with the term itself. Over the last three
decades action research has often been executed amidst social change and to varying
degrees, the work in this area has centered about the development of: professionalization
of teaching, social justice agendas, personal knowledge, and professional knowledge in
education (Noffke & Stevenson, 1995).

Definitions of Action Research from the Literature

Action research is represented by a multitude of terms in the literature: action
research, teacher research, research in practice, practical research, practitioner research,
and practical action research. Although some authors discuss minor differences that
distinguish these terms, a review of the definitions reveals that they can be used
interchangeably. For the purpose of this research study, action research is the term that
will be used. Action research is frequently depicted as a practical (Bell, 1999; Costello,
2003; Schmuck, 2006), cyclical (Noffke & Stevenson 1995), and ongoing (McLean,
2005; Noffke & Stevenson, 1995) process. Action researchers engage in deliberate
(Schmuck, 2006) and systematic (Costello, 2003; Johnson, 2005; McLean, 2005; McNiff,
2007) inquiry.

Most definitions of action research incorporate the following components: (a) who
participates in the process and where the process takes place, (b) what happens during the
process, and (c) the purpose for engaging in the process. Often different terms are used
across action research definitions to describe similar concepts. For example one
definition of action research may describe action research as a way to change practice
(Frost, 2002) while another definition may describe action research as a way to reform
practice (Hopkins, 2002). Participants (the who) of action research are educators
(Costello, 2003; McLean, 2005; Mills, 2007), administrators (McLean, 2005), and professionals (Costello, 2003; McLean, 2005; Mills, 2007) working in authentic settings (the where) such as real school environments (Johnson, 2005; Frost, 2002; McNiff & Whitehead, 2006) and classrooms (Johnson, 2005; Frost, 2002). Components of the action research process—or what happens—often incorporate identifying a practice related problem (Costello, 2003), gathering and interpreting data (Hopkins, 2002; Schmuck, 2006), attempting to gain an understanding of the data (Dick, 2002; Hopkins, 2002), problem solving (Bell, 1999; Costello, 2003), and reflecting (Costello, 2003; Dick, 1997; Frost, 2002; Noffke & Stevenson, 1995) within an authentic setting. Purposes for engaging in action research include: a means to improve the quality of practice (Bassey, 2005; Costello, 2003; Johnson, 2005; McLean, 2005; Mills, 2007; Noffke & Stevenson, 1995), a way to change practice (Costello, 2003; Frost, 2002), to recognize the constraints on practice (Costello, 2003; Noffke & Stevenson, 1995), and to have new knowledge to share with others (Johnson, 2005; Koshy, 2005).

Some authors include purposes for action research that go beyond understanding and improving practice. These additional elements present action research as a means to: political action, social justice, and empowerment. Noffke and Stevenson (1995) describe action research as a way for teachers to “locate spaces for ethically defensible, politically strategic action” (p. 4) and “improve the rationality and justice of their own social or educational practices” (Noffke & Stevenson, 1995, p. 4). Action research can be empowering and is a method that can be used for looking at relationships and patterns in one’s environment (Schmuck, 2006).
The definition of action research for this study was derived from the literature cited in the preceding paragraphs. Action research is defined as a cyclical process of systematically reflecting on, evaluating, and making modifications to one’s own practice (Costello, 2003; McLean, 2005; Noffke & Stevenson, 1995). This type of research occurs in authentic settings (with students in classrooms), and in context-specific environments (e.g., in a classroom during literacy block) (Hopkins, 2002; McLean, 2005). Its focus is determined by issues that occur locally or within one’s own practice (Johnson, 2005; McLean, 2005). Systematic evaluation of reflection and observations is ongoing throughout the action research process and promotes the continuous questioning of the implications of one’s practice (McLean, 2005; Noffke & Stevenson, 1995; Schmuck, 2006). It can be an empowering method for examining practice that may result in warranted action (Noffke & Stevenson, 1995; Schmuck, 2006). Understandings garnered from systematic evaluation of one’s own practice are then applied to student achievement and various issues within the school environment (Costello, 2003; Hopkins, 2002; McLean, 2005; Noffke & Stevenson, 1995).

It is important to distinguish between conducting an action research study and employing action research processes more broadly in practice. Conducting an action research study involves a focused investigation related to an identified practice related question or questions. How does student reflective journaling impact their comprehension of non-fiction text is an example of such a question. The skills garnered from learning to conduct an action research study may be utilized separately or in conjunction with each other in everyday practice in a more comprehensive manner. A broader application of these skills/processes could include a teacher engaging in
reflection routinely as a means to better understand her notions about teaching and learning, or a teacher regularly reviewing practice-related literature in order to continue to refine her pedagogical understandings. Teachers’ ongoing examination of their own practices and development of new knowledge about teaching often occur in congruence with employing action research processes in everyday practice. This study focuses on the application of action research processes in context and as a foundation for effective teaching.

Processes of Action Research

There are several processes involved in conducting action research: reflection, developing open-ended research questions, reviewing the literature, data collection, data analysis, and sharing of knowledge with others. Most of these processes are ongoing as action research is integrated into practice. A review of the literature addressing each of these processes along with the definition for each process guiding this study will be included in the subsequent paragraphs.

Reflection

“The action research process begins with systematic, critical reflection” (Hendricks, 2009, p. 30). Engaging in reflection enables the researcher to identify areas for investigation in her practice and is ongoing throughout the research process (Hendricks, 2009; Koshy, 2005; McNiff & Whitehead, 2006; Mills, 2007). Three methods of reflection that occur during the action research process include: reflection-in-action (Hendricks, 2009; Schon 1996), reflection-on-action (Hendricks, 2009; Schon, 1996), and reflection-for-action (Killion and Todnem, 1999 as cited in Hendricks). Reflection-in-action involves thinking about thoughts and actions while they are
happening (Hendricks, 2009; Schon, 1996). Reflection-on-action is the retrospective process of thinking about thoughts and actions (Hendricks, 2009; Schon, 1996). Reflection-for-action involves thinking about thoughts and actions in order to plan for future actions (Henricks, 2009). Beyond thinking about one’s own thoughts and actions, reflection includes “sharing your own ideas, listening and reacting to someone else’s ideas, listening to colleagues’ reactions to your ideas, and trying to integrate these into your thinking” (Zeichner and Liston, 1996 as cited in Tabachnick and Zeichner 1998, p. 310).

Reflection is defined as a conscious thoughtful inquiry into one’s own practice. This includes deliberate discussion, documentation, observation, and questioning of one’s own practice. Reflection can be oral or written and take place as instruction is taking place or afterwards. Reflection during instructional practice allows for an immediate evaluation and critique of practices that have become intuitive and are often left unquestioned. Reflection following instruction is a retrospective process that occurs over time and encourages evaluative thinking related to instructional decisions and student learning. This type of reflection also enables a metacognitive perspective on one’s own instructional practices and understandings of teaching. Reflection is a critical part of the action research process in that it helps participants to recognize, clarify, and understand their underlying notions about teaching. In order to identify areas of practice that are in need of improvement, recognize pedagogical assumptions, and identify a research question one must first think about and reflect upon their practice. Engaging in reflection both during and following instructional practice is a powerful process that can often lead to thoughtful action such as modification of instructional practice, revisiting and revising
understandings about teaching and learning, and seeking out new information related to discoveries uncovered during reflection and then applying what is learned.

**Developing Open-Ended Research Questions**

Identifying an area of focus by reflecting on practice is an important first step in developing an open-ended research question (Hendricks, 2009; Mills, 2007). Pinpointing an area of focus involves developing a general statement which is one that “links an idea to an action and refers to a situation one wishes to change and improve on” (Mills, 2007, p. 25). Mills (2007) suggests four criteria that should be considered when identifying the area of focus: it should (a) relate to teaching and learning and be rooted in one’s own practice; (b) be accessible; (c) be something one cares about; and (d) be something one would like to change or improve. After an area of focus has been identified, the next step is developing a research question. To arrive at an appropriately phrased research question Koshy (2005) suggests considering the goals of the intended research study. Available resources, experience, and interest should also be considered when framing a research question (Koshy, 2005). Questions should be focused and manageable (McNiff & Whitehead, 2006), and be derived from reflection and a review of the literature related to the research area of interest (Henricks, 2009). Examples of such questions include: “how does teaching students in small heterogeneous groups influence student achievement in third grade mathematics?”, or “how does using reader’s theatre with fifth grade students influence their comprehension of a story?”

**Reviewing the Literature**

Reviewing the literature is defined as searching for, identifying, reading, critiquing, synthesizing, and integrating literature related to the topic of study. This
includes literature relevant to any of the following: research area, methodology, theoretical frameworks, and analysis. Conducting a review of the literature for the purpose of action research enables the researcher to gain a richer understanding of the identified research topic. A review of the literature allows the reader to identify which areas related to the research topic have already been addressed, where there are gaps, and how to situate one’s work within the extant literature (Koshy, 2005). Review of the literature may provide new ways of looking at the problem and various methodologies to approach the identified research question (Mills, 2007). Literature reviews include (a) searching for related literature to the research area of focus, (b) determining whether the literature is relevant to the research question, (c) evaluating if it is well executed research that is being described, (d) reading and summarizing the literature as it relates to the research topic, and (e) synthesizing across the literature (Hendricks, 2009; Mills, 2007; Koshy, 2005).

Data Collection

Data Collection is defined as a systematic method of gathering data. Prior to data collection the type of data one intends to collect and the purpose for collecting that data must be identified and should be determined by the nature of the problem posed (Hendricks, 2009; Koshy, 2005; Mills, 2007). Rather than following a prescribed method of data collection, the researcher should consider what type of data will address the area of inquiry being pursued (Hendricks, 2009; Koshy, 2005; Mills, 2007). The caliber of the data is more important than the amount of data that is collected (Koshy, 2005). Once data sources are identified, qualitative and quantitative methods such as interviews, participant observation, field notes, journaling, surveys, and document review
should be employed (Mills, 2007). It may become apparent partway through the data
collection process that additional data sources are necessary to address the research
question(s). As data sources are identified, careful consideration should be given to the
relevancy of the data to the intended research question in order keep data collection
focused and manageable.

*Data Analysis and Interpretation*

Data analysis is the process of summarizing data accurately (Mills, 2007). The
process includes organizing and evaluating collected data so that its meaning,
relationships, and structure can be better understood. The type of data collected will
determine the data analysis techniques one uses (Hendricks, 2009; Mills, 2007). There
are several different methods of data analysis including coding, developing categorization
tables, organizing and reorganizing data, and using data analysis software. Data analysis
should be an ongoing process that begins simultaneously with data collection and
continues after data collection is complete. It is important to frequently revisit the
question(s) guiding the research study while proceeding with data analysis in order to
remain focused throughout the process (Koshy, 2005).

After data is analyzed it must be interpreted. Interpreting data is the process of
finding meaning within the data (Koshy, 2005). Looking at data in a variety of ways for
patterns enables the researcher to gain further understanding of the data (Mills, 2007). As
patterns are recognized within the data, the researcher can begin to develop themes about
the patterns he or she has identified and begin to relate those themes back to the research
question and the literature that has been reviewed (Hendricks, 2009; Mills, 2007).
Sharing of Knowledge with Others

Sharing of knowledge with others is defined as disseminating knowledge garnered from implementing the action research processes, with others. This can be done verbally or in writing. Knowledge can be shared directly (through workshops, conferences, and presentations) or indirectly (through articles, books, and pamphlets). Sharing experiences and findings resulting from conducting action research can lead to new insights about teaching. “The act of sharing and celebrating the findings of action research is a critical component of the professional disposition of teaching that will ultimately revitalize the culture of teaching and move us from a *craft culture* to a *reflective practitioner* focused profession” (Mills, 2007, p. 191). Research experiences and results can be shared with a variety of audiences including colleagues, other professionals in the field, and more global audiences and in a variety of formats such as written reports, oral presentations, and electronic communication (Hendricks, 2009; McNiff & Whitehead, 2006).

Related Dispositions

The literature on action research addresses several dispositions that often accompany the employment of action research process in practice. They include empowerment, flexibility in practice, openness to critique, risk taking, and viewing learning about teaching as ongoing (Cochran-Smith & Lytle, 1993; Falk, 2004; Noffke & Stevenson, 1995; Schmuck, 2006). These dispositions are often described in the literature as outgrowths of employing action research in practice however their definitions are often omitted, perhaps because they seem self explanatory. Also it is difficult to capture the qualities of each of these dispositions in a single definition.  

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3 These dispositions are introduced again in chapter 4. In chapter 4 I develop a loose description of these dispositions in order to try to capture and describe their presence in a participant’s teaching practice.
While most of these processes and dispositions are studied within the context of a teacher-researcher’s action research study, in the current study I investigate how each of these processes is reflected in the everyday practice of a teacher. The integration of action research processes in practice may extend beyond when an action researcher is conducting research and pervade throughout everyday aspects of instructional practice. A rich description of the context within which these processes occurs is included in a later chapter. Teachers’ ways of thinking, how, and why they incorporate these processes into their practice will also be discussed.

Results of Using Action Research in Practice

Action researchers are open to questioning, critiquing, and modifying their own practice. While engaging in action research, teachers often question and critique their ways of knowing (Capobianco et al., 2006, Merino & Holmes 2006; Kraft, 2002; Snow-Gerono, 2005). Teachers develop new understandings of teaching through the use of action research in practice (Falk, 2004; Merino & Holmes, 2006). The integration of action research in practice enables teachers to take a more active role in continuing to build their knowledge and understandings related to teaching beyond formal teacher education. The integration of action research processes in practice extends beyond the act of conducting action research. For example, teachers who incorporate action research in practice are likely to engage in critical reflection not only while engaging in research but more generally throughout their practice (Capobianco et al., 2006; Kraft, 2002). The skills attained from engaging in action research may be incorporated separately or in combination into everyday instructional practice. Teachers who incorporate action
research processes in their teaching: engage in critical reflection, question ways of knowing, and foster new understandings about teaching.

*Engaging in critical reflection*

Teachers who engage in critical reflection question their own beliefs, values, and current understandings of teaching (Capobianco et al., 2006; Kraft, 2002). Through this process teachers begin to identify existing tensions in their own perspectives and practice. Kraft (2002) found that as teachers engaged in a dialogue about action research, critiqued multiple case studies that presented various perspectives of action research, and conducted action research projects they began to realize that students are often inappropriately blamed for difficulties that arise in teaching. This realization prompted teachers to contemplate the difference between reflective practice and action research, identifying that in addition to improving practice, understanding practice may be the ultimate goal of engaging in action research. Findings suggest action research “structured around principles of critical self-reflection” is “a way to assist teachers in understanding their practice and questioning beliefs, values, and assumptions underlying their practice” (Kraft, 2002, p. 188). Teachers in Kraft’s (2002) study came to view their transformative experience with action research as a means to providing more effective practices for their students. Participants in action research feel a sense of empowerment and become active participants in their work and are able to develop and critically evaluate their own knowledge about teaching (Capobianco et al., 2006). This is a skill we should foster in all of our teacher candidates as well as our teachers.
Questioning Ways of Knowing

Those who engage in action research often find themselves questioning their current ways of knowing (Capobianco et. al, 2006, Merino & Holmes 2006; Kraft, 2002; Snow-Gerono, 2005). They are open to critiquing and modifying their current ways of knowing as they engage in reflection, encounter new ideas and perspectives, and identify contradictory evidence (Kraft, 2002).

Snow-Gerono (2005) found that as teachers proceeded to engage in inquiry, they began to recognize that various aspects of inquiry occur in an interactive nature rather than on a hierarchical continuum. For example, engaging in reflection during data analysis informs the analysis process. Similarly, engaging in the data analysis process while reflecting on a practice-related issue informs both reflection and practice; it is a cyclical process. Awareness of the symbiotic relationship of the action research processes fosters a new level of understanding that is a more conceptual, rather than procedural, understanding of teacher inquiry. The shift in understanding that occurs when engaging in action research may provide teachers with further insight into how knowledge about teaching is generated, how to become knowledge creators, and how to embrace their roles as individuals who can effect educational change (Snow-Gerono, 2005).

Fostering new Understandings of Teaching

As teachers engage in action research they begin to develop new understandings about teaching and modify their current conceptions of their roles as teachers (Falk, 2004; Merino & Holmes, 2006) which has the potential to be an ongoing process. Action researchers investigate their own practices while engaging in ongoing reflection. As
researchers contemplate their reflections, they are often made aware of their underlying assumptions about teaching and learning. They ask questions regarding their own instructional choices, and look for ways to more effectively meet the needs of their students. This becomes a cyclical process. As action researchers pursue these questions, additional areas of inquiry to pursue arise and the cycle continues. Those who participate in action research gain new insights from conducting their own investigations, and this can be empowering to them (Falk, 2004). With newfound confidence in their ability to conduct research, teachers tend to “shift their attitude about themselves and their own learning” (Falk, 2004, p.80). Initially teachers feel ill-equipped to independently seek solutions to practice related problems but subsequently feel empowered to do so. This shift is often followed by a change in how they approach their work (Falk, 2004, p.80). Action research in practice has been shown to be a productive way to approach and understand obstacles in teaching. As teachers experience a transformation of meaning perspective (Snow-Gerono, 2005) they become more comfortable with the continual posing of questions about their teaching and its impact on learners. Teachers with this conceptual understanding of inquiry do not wait for problems to arise before questioning what they do. They view these questions as opportunities to learn, and they tolerate the ambiguity of temporarily not knowing the answer; but they are not content to stay in that position. They follow the evidence they identify and make changes based on their findings (p. 93)

Participating in action research enables teachers to “reconstruct their role as advocate” and view practice related problems as “points for inquiry” rather than teaching failures (Merino & Holmes, 2006, p. 10). Acquiring knowledge about teaching can become an ongoing process for those who participate in action research (Noffke & Stevenson, 1995). Engaging in action research aids in the identification of “one’s vision
of good teaching within those of others involved in the educative process” (Noffke & Stevenson, 1995, p.5). This leads to ongoing tensions within the educational process. This tension encourages teachers to move regularly between theory and practice as they continually revisit practice related issues, recognizing that their understanding of teaching is partially correct and in constant need of revision (Noffke & Stevenson, 1995). Engaging in inquiry and research aids in the development of: pedagogical understandings, making connections from theory to practice, and the ability to engage in and solve practice related problems, while remaining focused on students’ needs (Falk, 2004).

Action research is a powerful mechanism for teachers to develop understandings about teaching. Studies examining how using action research in practice impacts teachers’ ways of thinking about teaching support the notion that introducing teachers to action research methodology is beneficial to their practice (see above literature). The current study focuses on how teachers carry out the processes—and not simply the act--of action research in practice. A deeper understanding of how teachers utilize these processes in practice may provide further insight into how to more effectively support teachers’ understanding and use of these processes prior to and throughout their teaching careers, not simply when they engage in action research.

Qualities of Effective Teaching

What makes for an effective teacher is a topic that appears frequently in educational literature (Cruickshank, 1986, 1990; Harris, 1998; Porter & Brophy, 1988; Walberg, 1986, 1990; White & Burke, 1993). This literature is often rooted in the belief that teachers influence the academic successes and failures of individual students (White
& Burke, 1993). It is often focused on specific teaching philosophies, content knowledge, teaching models, teacher management styles, specific teacher behaviors, and methods of conveying content to students (Harris, 1998; Porter & Brophy, 1988; Walberg, 1986, 1990). Shulman (1987) suggests that “the key to distinguishing the knowledge base of teaching lies at the intersection of content and pedagogy, in the capacity of a teacher to transform the content knowledge he or she possesses into forms that are pedagogically powerful and yet adaptive to the variations in ability and background presented by the students” (p. 15).

Many suggest that an effective teacher is one who is equipped with knowledge and skills from a variety of these areas and uses her pedagogical knowledge and skills to address the specific learning needs of her students while considering the nuances of the content to be taught (Cruickshank & Haefele, 2001; Harris, 1998; Porter & Brophy, 1988; Walberg, 1986, 1990). Brophy and Good (1986) emphasize that many of the findings stemming from literature on effective teaching must be qualified by specific grade level, student characteristics, and teaching objectives, and so conclude that “effective instruction involves selecting (from a larger repertoire) and orchestrating those teaching behaviors that are appropriate to the context and to the teacher’s goals, rather than mastering and consistently applying a few generic teaching skills” (p. 360). Employing action research processes systematically and connectedly over time in everyday practice transcends the limitations of effective teaching practices that are confined to specific grade levels, teacher’s goals, and context specific settings.

In their review of the literature on effective teaching, Cruickshank & Haefele (2001) provide a history of the evolution of the characteristics considered demonstrative
of effective teaching over the last several decades. They describe a series of classifications representative of the various characteristics discussed in the effective teaching literature (see table 1).

<table>
<thead>
<tr>
<th>Variations of a Good Teacher</th>
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<tbody>
<tr>
<td>IDEAL</td>
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<tr>
<td>teachers meet standards by school principals, supervisors, and educator professionals</td>
</tr>
<tr>
<td>ANALYTIC</td>
</tr>
<tr>
<td>teachers use observation techniques to record how well they are meeting instructional intentions</td>
</tr>
<tr>
<td>EFFECTIVE</td>
</tr>
<tr>
<td>teachers bring about higher student achievement</td>
</tr>
<tr>
<td>DUTIFUL</td>
</tr>
<tr>
<td>teachers perform assigned teaching duties well</td>
</tr>
<tr>
<td>COMPETENT</td>
</tr>
<tr>
<td>teachers pass tests that they possess requisite teacher attributes</td>
</tr>
<tr>
<td>EXPERT</td>
</tr>
<tr>
<td>teachers have extensive and accessible knowledge and can do more in less time</td>
</tr>
<tr>
<td>REFLECTIVE</td>
</tr>
<tr>
<td>teachers examine the art and science of teaching to become more thoughtful practitioners</td>
</tr>
<tr>
<td>SATISFYING</td>
</tr>
<tr>
<td>teachers please students, parents or caregivers, colleagues, supervisors, and administrators</td>
</tr>
<tr>
<td>DIVERSITY-RESPONSIVE</td>
</tr>
<tr>
<td>teachers are sensitive to all students</td>
</tr>
<tr>
<td>RESPECTED</td>
</tr>
<tr>
<td>teachers possess and demonstrate qualities regarded as virtues.</td>
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</tbody>
</table>

(Cruickshank & Haefele, 2001, p. 29)

While I recognize the need to critique this framework, a task I take on in Chapter 5, I believe it is a useful template against which to look at action research.

It is difficult to overlook the fact that outcomes from engaging in action research practices align with many of the characteristics delineated by Cruickshank and Haefel (2001) above. Those who employ action research processes reflect, identify, gather, and
interpret data in practice. Teachers who do so are analytic, in that they use observation methods to record how well they are meeting their instructional intentions; and reflective as they examine their teaching to become more thoughtful practitioners. Those who employ action research in their practice are more effective in meeting the learning needs of their students. They are systematic and purposeful in their practice. When these teachers identify areas in their practice that need modification and development they consult other sources to become more informed. Such teachers are dutiful, in that they are likely to perform teaching duties well; they are expert, in that they have extensive and accessible knowledge and can do more in less time. As teachers engage in action research processes they apply what they have learned to their practice exemplifying characteristics of expert, reflective, respected teachers. Furthermore, a fundamental element of effective teaching presented throughout the literature is the notion that such teachers are reflective in their practice and continue to develop their knowledge about teaching (Cruickshank & Haefele, 2001; Harris, 1998; Porter & Brophy, 1988). They are thoughtful about their practice and routinely evaluate their work. They welcome the responsibility of fostering student learning (Porter & Brophy, 1988). Through reflection they consider the effectiveness of their instruction which aids in developing their knowledge about teaching and informs the way they plan for future instruction (Porter & Brophy, 1988).

The connections between the employment of action research practices and the characteristics of effective teaching are substantial. However what is currently discussed in the action research literature remains confined to outcomes resulting from integrating action research processes within the contexts of a project-based research methodology.
This study begins to explore the idea that perhaps the systematic connected embedment of action research processes broadly in everyday aspects of teaching practice could serve as a concrete set of criteria for effective teaching. Cruickshank and Haefele (2001) put forth the following questions: “what should be the standard for teachers within each vision of good teaching? How can we prepare teachers and help them become good by some criteria? How can teachers document what kind of good teachers they are? How can we reward good teachers?” (p. 29). Perhaps employing action research processes systematically and connectedly in all aspects in everyday practice addresses the questions raised by Cruickshank and Haefele.

The Incorporation of Action Research into Teacher Education Programs

Though action research has been practiced in classrooms for many years, it is only within the last twenty years that teacher education programs have begun to incorporate various forms of action research into their curriculum (Grossman, 2005). There is little consensus across teacher education programs regarding standards of practice that address the integration of action research into program curriculum. While true, there are numerous benefits to introducing teachers to action research in teacher education programs.

Reasons for incorporating action research into teacher education programs addressed in the literature include: it has been shown to be a powerful form of professional development (Kitchen & Stevens, 2008); there is evidence that engaging in action research leads to better teaching (Auger & Wildman, 2000) and; engaging in action research encourages new respect for and understanding of research (Auger & Wildman, 2000).
Teacher educators who have argued for the introduction of action research into the preservice teacher education curriculum, have stressed the importance of establishing habits of “self-monitoring” during initial training so that teachers can enter the profession with the dispositions and skills that will enable them to continue to learn from experience and become better at teaching throughout their careers (Gore & Zeichner 1990, p. 51).

Teachers who engage in inquiry in their own practices are able to identify incongruities between theory and practice, and “between their ongoing assumptions about what is going on in their classrooms and in their more distanced and retrospective interpretations. Inquiry stimulates, intensifies, and illuminates changes in practice” (Cochran-Smith & Lytle, 1993, p. 51-52). The introduction of action research in teacher education programs fosters the development of teachers who perceive learning about teaching to be a life-long process (Auger & Wildman, 2000).

Action research has been integrated into teacher education programs “to address the relative ineffectiveness of traditional approaches to professional development in terms of affecting teaching practice” (Bierly & Berliner, 1982 as cited in Auger and Wildman, 2000, p. 121). The introduction of action research to pre-service teachers fosters professional development through theory and practice connections, reflection, and practice related inquiry (Kitchen & Stevens, 2008). Inclusion of action research as a pedagogy in teacher education programs is indicative of an understanding that the nature of teaching is—or should be—centered around inquiry (Grossman, 2005). Action research enables pre-service teachers to take responsibility early on for their own professional growth and accountability (Auger, & Wildman, 2000). Because engaging in action research fosters autonomy and a sense of control in one’s own teaching, it can be the impetus for a shift in thinking like a student to thinking like a teacher (Auger & Wildman, 2000). This shift in thinking and newfound autonomy encourages deeper
understandings and the development of linking theory to practice (Auger & Wildman, 2000).

“When teachers learn they are capable of transforming student learning by researching their own practice, their conceptual understanding of teaching and learning changes. The connection between teacher-growth and student-growth becomes explicit” (Kitchen & Stevens, 2008, p. 26). Results such as these demonstrate the benefits of integrating action research into teacher education programs, at both the pre-service and in-service levels (Kitchen & Stevens, 2008). Teachers who can address their students’ individual needs through observation and interaction are able to provide opportunities for authentic and meaningful learning with curriculum expectations situated in richer contexts (Auger & Wildman, 2000). Continued support for reflective practice and practice related inquiry into the early years of teaching from members of the educational community, linking pre-service and in-service teaching, will lead to educational communities that focus on positive educational change (Kitchen & Stevens, 2008).

It is important for pre-service teachers to understand that learning about teaching is a process that occurs over the course of one’s career (Auger & Wildman, 2000). “A teacher’s ability to improvise, adapt and respond in different ways to different pedagogical situations offers insight into the creativity, necessary professional autonomy and expertise inherent in quality practice, while simultaneously highlighting its somewhat ethereal nature” (Loughran, 2008, p. 1177). Teacher education programs need to work to develop a sense of value for academic research in spite of the fact that it often ostracizes the teacher practitioner (Auger & Wildman, 2000). Teachers are often overwhelmed by the notion of conducting research in their classrooms. Moreover,
teachers recognize that there is often little value placed on teacher research in the academic community, due to its perceived lack of rigor. This does not have to be the case. Teacher educators must work to support beginning teachers’ research endeavors and help them develop a sense of ownership regarding research. Engaging in action research enables practitioners to develop case studies and provide descriptions of the work they do with their students which results in valuable contributions to the field of education (Auger & Wildman, 2000). The research efforts, both individual and collaborative, of practitioners and academics must be valued in teacher education programs (Auger & Wildman, 2000).

Furthermore, it is important for teachers to view action research as a set of systematic processes to be embedded in everyday practice that extends beyond the notion of action research solely as a methodology to carry out a specific research project. Understanding action research in this way may foster a further sense of ownership of their actions and knowledge as teachers and enable them to talk about and better understand their practice. While many report that incorporating action research in teacher education programs is of value, research in this area is needed to support this claim with empirical evidence (Grossman, 2005). Furthermore, little research has focused on how engaging in action research affects the actual classroom practice of pre-service teachers (Grossman, 2005) when they move into permanent classroom positions. It is important to set studies of individual pedagogies within a broader framework of research. Doing so may provide greater insight into how to better support teachers in developing their understandings, abilities, and beliefs about teaching which inform their future practice (Grossman, 2005). Observing how teachers integrate action research
processes in their everyday classroom practice provides unique insight through concrete observation of how these processes manifest in practice. Such information may provide further understanding of how these processes influence actual classroom practice.

In her work Feinman-Nemser (2008) discusses the processes surrounding learning to teach. She presents a thematic framework comprised of four themes as a way of conceptualizing the process of learning to teach: learning to think like a teacher, learning to know like a teacher, learning to feel like a teacher, and learning to act like a teacher (p. 698). As illustrated by the above literature, engaging in action research fosters growth in aspects of each of the four broad themes presented. For example: growth in the four areas presented by Feinman-Nemser (2008) can be seen in teachers who employ action research processes as they learn to identify areas of their own practice that need improvement (learning to think like a teacher), develop new understandings of teaching through seeking out resources and testing out hypotheses (learning to know like a teacher), modify their practices to more effectively meet the needs of their students (learning to act like a teacher), and become more confident in their roles as knowledge seekers and creators (learn to feel like a teacher). This fact coupled with the knowledge that engaging action research is a way to foster the development of teachers who continue to reflect upon, question, critique, and modify their practice across content areas (Capobianco et. al, 2006; Falk, 2004; Merino & Holmes, 2006; Kraft, 2002; Snow-Gerono, 2005), suggests that it is important to consider how teachers are introduced to and supported while engaging in action research.

Often teachers are introduced to action research processes and their application as a means to conducting research about practice related issues. While it is true that this is a
useful application of these processes, framing the relevance of action research in this way in a sense limits the potential impact of action research on teaching more broadly. Auger and Wildman (2000) suggest a clear and specific set of action research standards of practice for teacher education programs which would require beginning teachers to:

(a) Identify reflection as an essential component of their own professional practice, (b) Frame workable questions about their own teaching and learning, (c) Plan improvement of their own practice through action-research-based inquiry, (d) Work with critical friends/mentors to plan and implement their own studies, (e) Use systematic collection and analysis of data to assess the effectiveness of their own practice, (f) Use a variety of data including observations and interactions with children as well as results of various assessments during student learning, (g) Apply ethical requirements to their own classroom, (h) Identify significant patterns and draw conclusions based on the data to assess the impact of changes in practice they have made, (i) Compare the results of their action research with related literature, (j) Record their own action research studies in writing and be able to share what they have learned, and (k) Use the results of their own studies to identify future professional growth needs (p.125-126).

Standards such as these may perpetuate the notion of action research as a research methodology when embedded solely in one or two action research courses. Such notions have the potential to confine teachers’ understandings of action research processes and their application to isolated instances of practice. Viewing action research in this way might hinder the potential influence action research could have if applied more broadly to aspects of everyday practice.

How action research is introduced to teachers, both conceptually and procedurally, and how teachers are supported as they engage in action research is likely to affect whether or not they will be able to successfully employ action research--and action research processes in practice. If the benefits of engaging in action research are so powerful, then the application of action research processes should not be confined by the

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4 Auger and Wildman (2000) emphasize the importance of embedding these standards of action research throughout teacher education programs in a variety of contexts, not solely in the context of a single action research course.
parameters of its utility as a research method for approaching a practice related issue.

Action research processes should be viewed as a framework for effective teaching practices to be embedded throughout everyday aspects of practice.

The continued use of action research processes in practice demonstrates knowledge about teaching that transfers across specific content areas and contexts and therefore helps to address Feinman-Nemser’s (2008) quest for the development of “adaptive expertise in teaching” (p. 703). In the current study, teachers’ use of action research processes in various content areas within practice is observed and described in detail and relevant contextual information is provided. Participants in this study demonstrated the ability to be adaptive in their practice as they employed action research processes. As they reflected on their practice, participants were flexible in their practice, willing to take risks, and made modifications when they perceived their methods to be ineffective. These results suggest that encouraging the use of action research processes in everyday practice may foster the development of teachers who demonstrate an adaptive expertise in teaching.

Effectively integrating action research processes in practice is a skill that transcends content and grade-level specific knowledge about teaching. These processes represent broader understandings about teaching and investigating this aspect of teaching knowledge may be a way to situate research on teaching in a broader context. More specifically, using action research processes systematically in all aspects of everyday practice may serve as a framework for effective teaching. Teachers who employ these processes systematically in practice are likely to develop deeper understandings about their teaching and are likely to more effectively meet the learning needs of their students,
as they: view learning about teaching as an ongoing process, question their practice, revisit (or consider for the first time) their underlying beliefs about teaching, consider alternative practices, take risks and feel empowered in their practice, welcome critique, and value the uncertainties in teaching.

This study begins to explore the notion of action research as a framework for effective teaching by observing these processes directly and providing a rich description of how these processes are carried out in practice. In order to foster more effective practice, it is also important to have a clear understanding of how action research processes are integrated in practice when evaluating the ways in which we introduce teachers to action research. Addressed in this study is the idea that moving beyond employing action research as a project-based research methodology to the employment of action research processes systematically and connectedly over time may provide a concrete framework for effective teaching.
CHAPTER 3: METHODOLOGY

This is a qualitative study. Qualitative methods were selected to encourage detailed analysis of observations, interviews, and data collection in hopes of better understanding how action research processes appear in practice. Results are not intended to produce generalizations. Qualitative inquiry is a situated activity that occurs within a natural setting (Denzin & Lincoln, 2003). It is an interpretive process in which the researcher attempts to understand phenomena and “the meanings people bring to them” (Denzin & Lincoln, 2003, p. 4). Qualitative researchers convey their observations with a series of representations such as interviews, anecdotal notes, photography, and video and audio recordings. They often use various methods of observation and representation that allow the researcher to observe and report on multiple aspects of a particular phenomenon (Denzin & Lincoln, 2003).

This study focuses on two in-service teachers and their instructional practices. Both teachers were initially introduced to the action research processes each as elements of a research methodology during my action research course. The number of participants in the study was determined based on Creswell’s (1998) suggested participant selection methods for case study. Creswell (1998) suggests selecting no more than four cases and contends that the more cases there are to observe, the less in depth each case will be analyzed. Creswell(1998) describes a case study as:
An exploration of a “bounded system” or a case (or multiple cases) over time through detailed, in depth data collection involving multiple sources of information rich in context. This bounded system is bounded by time and place, and it is the case being studied- a program, an event, activities, or individuals (p. 61)

The research question guiding this study calls for an in depth look at how action research processes are transferred to practice and required considerable time observing and analyzing each case in the field to be addressed adequately.

Teachers were observed in their classrooms three semesters after they completed an action research course. I am the principal researcher and was the course instructor. As the course instructor, I developed a relationship and established trust with the teachers, which facilitated access to their classrooms and their participation in this study. In this chapter I discuss the following: (a) participants; (b) setting; (c) observation procedures; (d) data collection procedures; (e) methods of data analysis; and (e) trustworthiness.

Participants

The nine teachers enrolled in the course5 were in-service teachers then working in K-12 classrooms in various content areas, literacy specialists, university professors, curriculum coordinators, or resource teachers. Participants completed the action research course in May of 2007. Data collection took place during October and November of 2008. The teachers had a wide range of teaching experience. The participants selected for this study were female due to the fact that all students enrolled in the course were female. Participant selection was purposeful and focused on providing detailed information (Patton, 1990) related to action research processes in practice. Teachers were selected based on (a) demonstration of an understanding of the action research

5 A more in depth description of the action research course can be found in Appendix B.
processes and successful completion of the action research course (received a passing grade), (b) current status as a K-12 teacher, and (c) willingness to participate in the study as demonstrated by informed consent.

Demonstration of an understanding of the action research process was selected as criteria for participant selection to ensure that teachers had at least a general understanding of what action research was in order to be able to implement it in practice. I reviewed each teacher’s weekly reflection summaries, end of the semester teacher-reflective essay, and final course project to determine her understanding of action research. The artifacts were examined for clear descriptions of the action research processes, reflections related to the action research processes, and connections between the action research processes and practice. The following example was considered a demonstration of a general understanding of action research:

After reading various articles on integrating the language arts, I put some of the ideas to the test in my own classroom and to expand on others. I began to see real results when I assigned students to write a formal letter to the upcoming freshmen on which character trait would be most beneficial to their high school careers. Prior to this, I had tried “dipping my toe” into the waters, having students select and analyze sentences in literary selections that we were reading and then attempting to mimic the structure or the tense of the sentences. However, giving students something significant and long-term to sink their teeth into also gave me a way to measure their growth and an anchor around which to float the various strategies that I wanted to attempt (Rebecca, Final Research Paper).

In the above example Rebecca described the employment of several action research processes (Consulting other Sources, Identifying and Gathering data, Reviewing and Interpreting Data, and the Application of new Knowledge in Practice) in her practice. It is evident through her reflection in this example that she considered how and why the information garnered from employing these processes was applicable to her practice. Her application of these processes in practice during the course along with her
Reflection regarding their application, were considered one example of a demonstration of a general understanding of action research.

Two teachers met each of the selection criteria and were included in this study. Jennifer was a fifth grade regular education teacher with nine years of teaching experience. She earned her bachelor’s degree in history and K-12 teaching certification (grades 7-12 American and World History and government and elementary certification). During the year in which the observations took place, she taught math, science, reading, and social studies to the students in her classroom. Rebecca was a tenth grade English teacher, with five years of teaching experience. She earned her bachelor’s degree in English Education. Both participants were in their thirties and prior to teaching had careers in fields unrelated to education.

Setting

School 1—where Jennifer taught—was an elementary school (Pre-K- 5th grade) located in a rural area with a student population of 771 (51% male, 49% female). The teacher to student ratio at this school was 1:15. Student ethnicity was reported as 1% Asian, 11% Hispanic, 40% black, and 48% white. The percentage of students eligible for free and reduced lunch was 55%. School 2—where Rebecca taught—was a high school (grades 9-12) located in a rural area with a student population of 1388 (50% male, 50% female). The teacher to student ratio was 1:16. It was listed as a school of progress with a reported 60-80% of students performing at grade level (DPI School report card 2006-2007) with a four year graduation rate of 68.4%. Students’ ethnicity was reported as follows: American Indian 1%, Asian 1%, Hispanic 2%, Black 57%, and White 39%. The percentage of students eligible for free and reduced lunch was 43%.
Participants were observed in their own school environments which included classrooms, conference rooms, school hallways, lunchrooms, resource rooms, and administrative offices. Each of the two teachers’ instructional practices was observed for an intensive eight day period and a follow up observation was conducted approximately three weeks after the initial observations. Participants’ availability and my schedule informed my selection of the eight day observational period. I observed each teacher for the entire school day, every day for eight days. The observational period allowed for opportunities to observe variation across teaching contexts and provided a rich picture of the teacher’s instructional practice and ways of thinking about teaching. Observing teachers for the entire school day for eight consecutive days allowed for multiple opportunities to potentially observe action research processes in practice and to capture whether or not teacher’s employment of these processes connected across the observational period. The follow-up observation provided further data as to whether or not there was consistency in the behaviors I observed in each participant’s practice.

Processes Observed in Practice

Participants were introduced to action research processes\(^6\) in my action research course. Students in this course were provided with detailed descriptions of each of the processes, and several examples regarding their application were modeled in a variety of contexts. Class discussions and readings throughout the semester centered around why and how action research processes were integrated in practice both in general and specific to each student’s research. As the processes were introduced into practice they were often applied flexibly and were interwoven. Some of the processes changed shape and represented a broader application as they were moved into practice. I initially observed

\(^{6}\) For a complete definition of each action research process see Chapter 2.
aspects of the conversion of the action research processes during the action research course, through participant’s class reflections, and witnessed further examples while observing their practice. During the current study, I observed participants’ instantiation of these processes in practice. I have reclassified a few of the processes to better suit how they were actually applied in practice (See Table 2). Because these processes were employed more broadly in practice, re-classifications were developed to encompass a more global set of behaviors which were illustrative of action research practices. For example, I expanded the category of Reviewing the Literature to include teachers’ discussions with colleagues, attendance of professional development sessions, and accessing of online resources to obtain practice related information. I then renamed this category Consulting Other Sources to more accurately represent what it entailed.

<table>
<thead>
<tr>
<th>Original Classification from Course of Action Research Process</th>
<th>Modified Classification of Action Research Process in Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reflection</td>
<td>Reflection</td>
</tr>
<tr>
<td>Developing Open-Ended Questions</td>
<td>Investigating Practice</td>
</tr>
<tr>
<td>Reviewing the Literature</td>
<td>Consulting Other Sources</td>
</tr>
<tr>
<td>Data Collection</td>
<td>Identifying and Gathering Data</td>
</tr>
<tr>
<td>Data Analysis</td>
<td>Reviewing and Interpreting Data</td>
</tr>
<tr>
<td>Sharing Knowledge with Others</td>
<td>Sharing Knowledge with Others</td>
</tr>
<tr>
<td></td>
<td>Application of new Knowledge to Practice</td>
</tr>
</tbody>
</table>

Each of the action research processes listed above may or may not have been implemented in its entirety. Teachers may have employed the processes separately or in combination with each other in practice. The following paragraphs describe briefly first
how each of the action research processes looked in practice and then how data was collected on each of these processes in practice.

Observation Procedures

Observation of Reflection consisted of identifying instances of reflection and documenting the type of reflective document or discussion along with a description of the reflection itself. Observing Reflection in practice was a difficult process due to its being often an internal process. While there were many instances in which reflection was directly observable (e.g., documented reflection contained in reflective journals, direct reflective dialogue in conversations with colleagues or me), there were also several instances where reflection was not directly observable. Actions that appeared to be indicative of reflective behavior were also noted and considered potential instances of Reflection. This required that I interpret a teacher’s actions as I observed them (such as instructional shifts, modification of lessons from one period to the next) and then follow-up by asking the teacher questions (such as “why did you stop in the middle of the lesson to define a word?”) to verify that what I had observed was an instance of Reflection. It is likely that there were instances of reflection that I did not observe due to the complex nature of reflection. During the interview sessions I had teachers elaborate on how they used Reflection in practice to get a better understanding of how this process occurred in their practice.

Investigating Practice was observed by identifying and documenting when teachers maintained and reviewed reflective journals and/or thinking in practice, identified themes across their reflections in order to pinpoint an area of inquiry relevant to their own practice, and identified a specific topic, or a question stemming from their
practice. Similar to the difficulties with observing Reflection, there were instances of Investigating Practice that were not directly observable. Teachers were asked questions throughout the observational period and during the interview to clarify and elaborate on instances that I identified as possible instances of investigating practice. Documentation of Investigating Practice included the practice-related question and descriptive notes. During an interview at the end of the observation period, teachers were asked questions about how they carried out each of these processes (Reflection and Investigating Practice) in practice and were asked to provide examples. The purpose of the interview questions was to get additional information regarding each of these processes to supplement, confirm or disconfirm what was observed. Observational and interview data was then coded into categories of Reflection and Investigating Practice (See Appendix A for a list of interview questions).

Consulting other Sources was observed in practice by first documenting any instances of practice related conversation (e.g., verbal, via email, and memos) with colleagues about practice related issues; consultation of journal articles, books, newspapers, magazines, curriculum manuals, others’ lesson plans, discussion forums, and documentation from professional development sessions. These instances were noted and if the sources listed above were related to a targeted area of practice identified previously in oral or written reflections or suggested by the participant during informal follow-up question sessions with me, they were coded as an instance of Consulting other Sources. During the interview session participants were asked to describe the various types of sources they consulted to inform their practice, how they utilize those sources in practice, and what activities they participated in outside of the classroom that included Consulting
other Sources (e.g. professional development sessions, discussion boards, and book clubs). On many occasions participants showed me the sources obtained from their out-of-class activities.

Identifying and Gathering Data in practice was observed by noting when information was collected such as: student journal entries, portfolios, written work, drawings, interest surveys, questionnaires, test scores, responses to interview questions, class discussions, reflective notes related to instructional techniques, student feedback, student interests, parent conferences, and lesson plans. Additional instances of Identifying and Gathering Data in practice beyond those discussed above presented themselves as teachers were observed and were noted as they were identified (e.g. informal conversations with students during silent reading time to inquire further about students’ interests). Each instance was then coded and categorized into specific type of data identification and method of gathering data. Additional information regarding Identifying and Gathering Data was obtained during the interview session with each teacher. Interview questions asked teachers to describe and provide examples of how they identify and gather data in practice and what type of data they focus on.

Reviewing and Interpreting Data in practice was observed by noting when teachers read, reflected on, categorized, coded, made comparisons across data, and evaluated and developed grounded theories from the data. Additional instances of Reviewing and Interpreting Data in practice beyond those discussed in the preceding paragraph presented themselves as teachers were observed (e.g. oral discussions with other teachers about student work resulting from the implementation of a new teaching strategy). Each instance was then coded and categorized into specific type of review and
data interpretation. Additional information regarding *Reviewing and Interpreting Data* was obtained during the interview session with each teacher. Interview questions asked teachers to describe what they did with the data once they were gathered, how they interpreted the data (including what processes they used), how they thought about the data as they analyzed it, and how the data informed their practice.

Observation of *Sharing Knowledge with Others* in practice consisted of identifying and documenting instances of engaging in formal presentations, professional development sessions, lesson plan sharing, sharing literature (journal articles, magazines, newspapers, books), conferencing with students (or students’ family members, teachers, administrators, community members), discussion forums, hallway discussions, emails, publishing, and distributing handouts. Additional instances occurred during observations that had not already been identified and were also documented as they were observed (e.g. sharing of knowledge with students). As instances were noted they were described in detail and then coded and categorized into specific methods of knowledge sharing. To triangulate observational data teachers were asked a few interview questions regarding *Sharing of Knowledge with Others*. The interview questions addressed how teachers shared knowledge in practice, with whom they shared knowledge, what knowledge they shared, how they decided what knowledge to share, and why they shared knowledge in practice.

The *Application of new Knowledge to Practice* was observed by identifying and documenting any instances of employing newfound knowledge developed through the use of action research processes in practice. For example, Rebecca attended a writing conference and read several articles (*Consulting other Sources*) on using daybooks as a
tool to improve her practice and her students’ writing. She then integrated day books into her daily agenda and both she and her students and wrote in their daybooks routinely. As instances were noted they were described in detail and then coded and categorized. To triangulate with observational data teachers were asked a few interview questions regarding the *Application of new Knowledge to Practice*. The interview questions addressed how teachers apply new knowledge to their practice.

**Data Collection**

I employed multiple methods of data collection with the intent of increasing the trustworthiness of the research. Trustworthiness is described by Glesne (1998) as research validity. Using a variety of methods reduces threats to validity that may be present within individual methods of data collection (Glesne, 1998). Triangulation of data sources is an “approach in which the researcher tests one source of information against another to strip away alternative rival explanations” (Cresswell 1998, p. 210). This can improve the quality of the data. Data collection methods included participant observation, interviews, document reviews, and digital photography. A description of how each data collection method was used follows.

**Participant Observation**

Observations of practice with each participant focused on instances of the action research processes in any of the following contexts: evaluations of student work; meetings; anecdotal notes; lesson plans; and teacher discussions with students, administrators, and other teachers. Observations were systematic and occurred within the school environment. Notes were made during observations and included a clear description of the actions and interactions that took place during the observational period.
Through the use of observational data, meaning can only be inferred, not ascertained (Marshall & Rossman, 1999). While observing teachers in practice I kept an ongoing note journal. I did not initially attempt to classify the action research processes that I observed in practice. This allowed room for observing aspects of practice related to the action research process that were not initially anticipated. Observational notes included detailed descriptions of the setting, participants, interactions, personal reflections, hypotheses, and feelings (Taylor & Bogdan, 1998). I reviewed these notes at the end of each observation day (and during any spare time during the day) and wrote additional comments related to the events when there was not enough time to write as the event happened.

I referred to the extant action research literature to identify potential themes in the data prior to the observational period and data analysis. Because I was the action research course instructor and conducted initial interviews with the teachers prior to entering the observational setting, my observations were also informed in part by my prior knowledge of action research, of the teachers’ participation in my course and teachers’ initial interview responses. However, the coding system was not entirely predetermined at the beginning of the observational period. This allowed for the emergence of new codes as described later in chapter 4.

During the observations, I remained open to additional behaviors that may not have been described in the interviews or in my descriptions of each of the processes derived from the literature as possible demonstrations of the action research process. Marshall and Rossman (1999) suggest that this flexibility enables the researcher to recognize patterns and relationships based on the observed behavior rather than solely on
the extant literature (see Table 3). After patterns were identified through observation and analysis, more specific methods of categorization were useful. I developed a series of headed note pages with each of the processes listed at the top that provided a place to list a context (i.e. in what environment the process occurred), an example of how the process was utilized, and a place for additional comments related to the event, as I began to categorize and code the observations (see Table 4).

Table 3 Sample Observation Note Page

<table>
<thead>
<tr>
<th>Environmental Details (e.g. time of day, content area, specific activity title, etc…)</th>
<th>Observation of Actions (detailed description of teachers behaviors/activities/ relevant classroom practice)</th>
<th>My Reflective Notes (my comments or thoughts in relation to what was being observed / had been observed previously/ questions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher Name/ Date of Observation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4 Revised Note Pages as Categories were Developed

<table>
<thead>
<tr>
<th>Date Table was Developed</th>
<th>Process Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date Process Occurred in Practice</td>
<td>Context (Description of the environment in which process occurred)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Document Review

Photocopies and digital photographs of teachers’ anecdotal notes, reflections, and teacher comments on student work were obtained during the observation period. Using photocopying or photography as an observational tool can capture relationships that are often omitted from written observational notes (Collier & Collier, 1986). For example,
photographs of reflective notes provided insight into when and how teachers made connections between various thoughts, beliefs and understandings about practice. They did so by illustrating the proximity one reflective comment had to another and the level of importance (as demonstrated by the size of writing, highlighting, or underlining). Supplementing observations with document reviews provided additional contextual information. Information gleaned from document reviews can support, enrich, contradict, and modify understandings of observational and interview data (Glesne, 1998).

Interviews

Interviews were conducted with each participant prior to the observation period and again three weeks after all observations in their classroom had been conducted. Interview questions addressed participants’ ways of thinking about teaching related to the action research process and how they employed these processes in practice. Qualitative interviewing is a flexible process that is open-ended and nonstandardized (Taylor & Bogdan, 1998). Interviews are intended to provide insight into the interviewee’s perspectives, experiences, and understandings as they express them. The interviewer learns from the interviewee’s responses what questions to ask and how to ask them as she proceeds with the interview (Taylor & Bogdan, 1998). Interviews conducted at the beginning of the observations were used to expand my focus regarding what to look for during observations. The final interview was lengthier than the initial interview. The purpose of the final interview was to identify how the participants made decisions about, integrated, interpreted, and applied each of the action research processes in their own practice. The interview data supplemented the observational data to provide a broader understanding of how each of the action research processes was integrated into practice.
During the initial interview teachers were asked to express their views regarding what it meant to engage in effective teaching and to identify what areas of action research they thought were important from the course. In the final interview teachers were asked (a) how or/why they integrated the each of the action research processes in their practice, (b) how/why they made specific instructional decisions, (c) to describe the purpose of reflecting and writing anecdotal notes, and (d) to elaborate on their ideas about using research in practice. Teachers were asked additional questions as needed throughout the observation period in order to clarify and elaborate on observations, instructional decisions, discussions with students, and administrators to get a more in-depth understanding of their ways of thinking about teaching related to action research processes.

Data Analysis

Data analysis was ongoing throughout the research process. Ongoing analysis allowed me to focus my observations and interview questions as I engaged in the research process. Analysis included routine reflection on the observational notes, interview responses, and documents that were collected. This type of analysis was helpful as I organized and made sense of data, began to clarify themes, developed and applied coding schemes, and synthesized the data (Glesne, 1998).

I identified a priori themes around which I conducted my observations, however I remained open to the possibility of the emergence of additional themes. Themes were derived from my review of the action research literature. Documents, observational notes, and teacher interviews were reviewed and coded according to which action research process was observed. Coding involved sorting collected data into categories. Using
Glesne’s (1999) description of coding, data were grouped into categories which were representative of groups of data that were similar in theme. General categories were developed initially, and then progressively divided into a variety of smaller more specific codes as analysis continued. Categories continued to be redefined throughout the process as new data were introduced that were not represented by existing categories. Coding and categorizing the data allowed me to develop a framework for understanding the data (Glesne, 1999).

More specifically, I conducted two within-case analyses which involved identifying themes within a single case. These analyses were followed by a cross-case analysis which entailed “examining themes across cases to discern themes that” were “common to all cases” (Cresswell, 1998, p.250). Using Cresswell’s (1998) suggested methods for analyzing case studies I employed five forms of data analysis. I provided in-depth description of the data and their surrounding context. During analysis, I categorically aggregated the data, searching for identifiable similarities within the data. I also engaged in direct interpretation of the data, looking at each instance independently of others to uncover meaning within the instance itself. Once categories were established I then identified patterns across categories of data and across data types. Once patterns were established I developed a set of assertions based on my interpretation of the data and relating to the extant action research literature (Cresswell, 1998). In an attempt to triangulate data during analysis I reviewed each teacher’s observed (observational notes) use of action research processes in practice and looked across data sources (observational notes, interview responses, and digital documents) to determine if there was confirmatory or contradictory evidence relative to what I observed in practice.
Trustworthiness

In addition to the use of triangulation methods, through the careful review of multiple data sources, I was cognizant of the fact that there were additional concerns that I needed to address to increase the trustworthiness of the data collected for this study. Being both the course instructor and the principal investigator, I was aware of several issues that might arise during the data collection process. One issue was the difficulty of keeping my role as former instructor separate from my role as researcher. An example of how I addressed this included: if I observed an opportunity for a teacher to utilize her reflections to make informed practice related decisions, I was sure not to prompt her to do so, and continued to observe her practice without intervening. Another issue of concern was that participants may have felt the need to incorporate action research processes in practice because I was observing their practice. (The same teachers might not have engaged in action research processes in practice if they were not being observed.) Conducting repeated observations of participants’ practice helped counteract this issue as teachers quickly returned to their regular teaching routines when they adjusted to my presence in their classrooms. There was evidence that participants were engaged in their regular teaching routines during the observational period. Both teachers followed their daily schedules, and students were familiar with the routines. This suggested that teachers were not behaving differently than they were prior to the observational period. There was also evidence of this in the consistency of specific practices prior to and over the course of the observational period, and follow up visits. For example, Rebecca had volumes of reflective journals from prior to the observational period, continued to write in her journal
daily during the observational period, and wrote daily in her journal between the observational period and the follow up visit.

Because observations were conducted over the course of eight days, it is possible that I was not able to capture an accurate picture of typical classroom practice (e.g. teachers might have been working on an inquiry project during an observation week, and therefore I would be more likely to see action research processes in practice that week than an average week in their classroom). To help address this issue, I conducted follow up observations with each participant. Follow up observations included one additional observation with each teacher for an entire school day approximately three weeks after the initial observations. During the follow up observations I found that participants demonstrated consistency in their practice across the observational period and follow up observation.
CHAPTER 4: ANALYSIS

Introduction

The research question guiding the present study is: How do in-service teachers demonstrate action research processes in their instructional practice?

As described in detail in the previous chapter, each teacher’s practice was observed for a period of eight days and a follow up observation was conducted approximately three weeks after the conclusion of the initial observations. During the observation period I wrote field notes, collected photocopies and took digital photographs to document how, if at all, teachers integrated action research processes in practice. Interviews were conducted at the beginning and end of the observation period. Observational notes, Interview data, and documents (photocopies and photographs) were coded using ATLAS.ti version 5.5. ATLAS.ti is qualitative analysis software used for the systematic coding of large amounts of text, audio, video, and graphical data. Codes were grounded in the literature on action research and revisited throughout the analysis process. They included: reflection, investigating practice, consulting other sources, identifying and gathering data, reviewing and interpreting data, sharing knowledge with others, application of new knowledge in practice, flexibility in practice, empowerment, openness to critique, and views learning about teaching as an ongoing process.
Overview of Jennifer and Rebecca’s Practice

The following narratives provide an overview of Jennifer’s and Rebecca’s practice. The structure of the two narratives is different due to the fact that the manner in which Jennifer and Rebecca embedded action research processes in their everyday practice was qualitatively different. Jennifer’s narrative describes how she integrated action research processes during a typical teaching day. This structure was selected because it seemed like an effective way to convey her employment of action research processes, which occurred sporadically yet routinely in her everyday practice. Rebecca’s narrative provides a portrait of her use of action research processes over the course of a unit of instruction to illustrate how she embedded systems for carrying out action research processes in her practice. In the narratives below, action research processes are noted in parenthesis and italics to provide a sense of how Jennifer and Rebecca were observed to embed action research processes in their everyday practice. I will elaborate upon these examples and provide further illustrations of how each of these elements was embedded in Jennifer and Rebecca’s practice as I move through this chapter.

Jennifer

Jennifer was a fifth grade teacher who taught math, language arts, social studies, and science to the same students over the course of the entire school day. She knew most of her students and their families very well, as she had taught many of their siblings in previous years. Jennifer routinely made use of her knowledge of student interests and lives outside of school to inform her instructional decisions. Students who were considered “quirky” by the other fourth and fifth grade teachers were placed in Jennifer’s classroom because of her “ability to reach them” (according to other faculty at the
school). She was also very friendly with other faculty at her school, particularly the other fifth grade teachers. Jennifer regularly changed a majority of the student work displayed in her classroom to reflect the most recent unit/s she was working on with her students. She sat at her desk, which was located in a front corner of the classroom facing the students, fairly infrequently and mostly during times when students were working independently. To fulfill the school’s requirement, Jennifer wrote lesson plans, but they were very brief and often did not dictate what she taught on a daily basis. Although she did not use these plans in her practice, and perhaps because she had taught the same content for several years, she was very well-organized and had a clear plan in her mind about the content to be covered and the method in which she planned to present it on a given day. Her room was filled with resources that she obtained from professional development workshops and educational workshops that she sought out and attended on her own time; this was not professional development required by the school. She often pursued opportunities to develop her pedagogical and content knowledge outside of school. Jennifer was often the first teacher at school in the morning, and was enthusiastic about teaching. She was very transparent with her instruction, clearly explaining, modeling, and thinking aloud as she conveyed content to her students; this seemed to come very naturally for her.

On Monday morning during the observational period Jennifer assigned the students their weekly classroom jobs. Afterward, Jennifer had students work on their morning math assignments independently at their desks as she circulated the room to review students’ homework. As she walked around the room, she asked students questions about their extracurricular activities, families, friends, and events that occurred
outside of school in part to gain information about student interests to integrate into future curriculum (Identifying and Gathering Data).

When students were finished with their independent math work, Jennifer read a chapter aloud to her students from a novel that she was reading to the class. As she was reading she encountered a word that they had previously learned in another chapter of the story, perfidy. After coming upon the word perfidy she stopped reading the story to the students (Reflection in Practice), wrote the word on the board, and asked the students what the word meant. Jennifer had a brief discussion with her students about the word and then continued reading. After she finished reading the chapter, Jennifer invited the students one by one to pick out a book from the class library shelf for Sustained Silent Reading (SSR) time, and to read quietly. Jennifer engaged in informal conversations with individual students during Sustained Silent Reading (SSR) time. She asked students questions about the books they were reading, and expressed her opinions about the stories if she had read them. She informed me that she did this to make connections with her students and obtain further awareness of their interests and comprehension as readers (Identifying and Gathering Data, Reflection). During SSR Jennifer distributed blank notebooks to each student to be used for book journaling, a teaching technique she acquired from a workshop (Consulting other Sources). She then modeled how to write a journal entry for her students, by thinking aloud as she journaled about a book she was reading. Students were then asked to write their own journal entries about the books that they were reading. There was one student in the class who was an avid reader, but did not write anything in his book journal. The student asked Jennifer if he could talk to her about the book, so she held a mini-conference with him to discuss the book (Flexibility in
Practice). This student was so motivated by their conversation about the book that he returned to his seat and wrote a two page entry in his journal.

After SSR time students began math period. Jennifer handed out blank multiplication tables to each student and modeled how to fill them out, expressing to students that identifying patterns of multiplication would facilitate the process of filling out the table. An example of a pattern included writing zeros down the entire column and row in which zero times any number occurred. When she finished modeling the process for her students Jennifer required them to fill out their own multiplication tables. Jennifer circulated the room as students worked, she asked students to explain the various patterns that they identified (Identifying and Gathering Data) as they filled out their multiplication tables.

After Math period, students went to lunch and a teaching assistant worked with the class while Jennifer participated in the weekly fifth-grade team meeting. Jennifer was the fifth grade chair person responsible for facilitating the team meeting, a position she volunteered to occupy (Empowerment). Jennifer brought a science lesson book that she obtained from an educator trek fieldtrip\(^7\) that she attended earlier on the year (Consulting other Sources) to share with the other fifth grade teachers at the team meeting (Sharing Knowledge with Others). She conducted several of the lessons in this book with her students in weeks prior to the observational period (Application of new Knowledge). She pointed teachers to the lessons she carried out in her practice and explained why they were useful. She informed the teachers that the lesson book was a great resource and that it was available for them to borrow at any time (Sharing Knowledge with Others).

\(^7\) Educator treks were hands on natural history field trips in which educators participated in the activities and discussed how to integrate the field experiences into their curriculum. These field trips were offered through the state Museum of Natural Science.
This snapshot of a typical day in Jennifer classroom is illustrative of how action research processes were employed in her practice. Elements of action research were observed routinely throughout her practice but the data suggested that the use of these processes was rarely connected across instances, as described later in this chapter and Chapter 5.

Rebecca

Rebecca was a tenth grade English teacher who was very well-liked by students in her school, including those who had never taken a class with her. On most mornings she stood outside in the hallway and greeted students as they arrived at school, and the students seemed legitimately happy to see her. Rebecca involved her students regularly in her instructional delivery and assessments. She did this by asking students to: present course content to their classmates, participate in the development of ideas for class projects, compile class notes on the class computer, complete self-evaluation forms and evaluations of their classmates’ work, and provide suggestions for her instructional practice. Her decision to incorporate students in these ways was purposeful. She was enthusiastic about the material she presented to her students and not only had a strong understanding of the latest technology, but used it in her practice regularly integrating it throughout her curriculum in meaningful ways. She rarely sat in her desk which was situated in front corner of the classroom facing the students. Behind her desk on either side of a window stood two large bookshelves which contained several volumes of reflective journals, educational resources, practice-related research journals and articles, textbooks, and binders with detailed standards and policies. Next to her desk was an open-rolling file drawer, which contained cumulative writing folders for each student in
her three classes. Hanging on the wall by her desk were copies of short practice-related articles, notes, pictures of her beside former students, pictures of her son, her son’s artwork, inspirational quotes related to education, and tenth grade English standards. On the other three walls in the classroom Rebecca displayed student work, which often included final products of the work she often wrote about in her reflective journals.

During the observational period students were introduced to an instructional unit about literary techniques. The semester during which the observations took place was the first time Rebecca had relinquished instructional control of this unit to her students. Students were divided into groups and asked to present information related to a specific literary technique to their classmates. They were also asked to read and present a synopsis of a story written in the style of their group’s assigned technique. In previous semesters Rebecca presented the literary techniques and read related stories aloud to her students.

At the beginning of the class period on the first day of the student literary technique presentations Rebecca wrote a reflection in her daybook, a reflective journal, about the upcoming student presentations (Reflection). In her reflection she questioned her decision to entrust her students with control of the unit. She wrote about whether or not the content regarding each literary technique was being conveyed clearly by each of the groups and pondered ideas about how to modify the unit to make it more effective. Her ideas, as written, included: pre-teaching the techniques to the students who were to present them, streamlining the assignment to include only one form of technology in the presentation, and observing the presentations prior to the students presenting to the class. During this time Rebecca also had students briefly record their thoughts related to the
method and clarity of each group presentation and respond to questions that examined their understanding of the material. She asked students to write their responses to each of these areas on their daily time cards (Identifying and Gathering Data), an idea that Rebecca acquired from reading a practice-related journal article (Consulting other Sources). Rebecca reviewed the daily time cards and provided feedback to the students’ responses (Reviewing and Interpreting Data).

After each of the groups had presented their assigned literary technique, Rebecca asked students to reflect in greater depth on the effectiveness of the assignment. She asked students to respond in writing to several questions about the clarity of the presentations, method of presentations, and ways in which they would change the presentation formats. Rebecca collected the students’ responses to these questions and reviewed them (Reviewing and Interpreting Data). Rebecca continued to write in her daybook at the beginning of each class period, she observed the presentations, collected student time cards, and final project assessments. During this time she brainstormed ways to modify the lesson in hopes to identify ways to more effectively convey the material to her students (Reflection).

When I returned for the follow up visit I observed that Rebecca had added several entries to the table of contents in her daybook related to the unit on literary techniques. The entries in the table of contents consisted of a one or two word description of a daybook entry and a page number. Rebecca said that she created the table of contents in her daybook in order to aid her in identifying themes across her daybook entries.

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8 Rebecca developed a “card” for each student which she distributed daily. It consisted of a table with space for students to provide the following information depending on the daily prompt provided by Rebecca: date; brief summary, response to questions, and reflections about daily class work. The card also had a space next to the student entries for Rebecca to provide feedback to what students wrote.
(Reviewing and Interpreting Data, Reflection). During the observational period Rebecca showed me a cumulative notebook that she developed from her daybook entries and the themes she identified across the entries. She developed the cumulative notebook as a way to keep track of reflections on past and future lesson ideas. The cumulative notebook included ideas extracted from her daybook and various other sources (Reflection). Rebecca developed a notation system as a way to remind herself what she was thinking in relation to each of the entries listed in the notebook (Identifying and Gathering Data). The notation system consisted of symbols: spirals were noted next to lessons that have already been tried and deltas were noted next to lessons that had not been tried or have been tried but might work if they were modified (Reviewing and Interpreting Data). During the follow up visit I observed an entry in Rebecca’s cumulative notebook regarding her plans for future adaptations of the literary techniques unit based on her reflective entries (Application of new Knowledge).

Rebecca’s systems for integrating action research into her practice included the routine use of daybooks, daily time cards, student reflective assessments, coding structures, student cumulative folders, and the development of a cumulative notebook. A few components of her systems were not described in the example above but will be discussed in greater detail in the subsequent sections of this chapter.

Findings

The remainder of this chapter will address the results of the data analysis. During the analysis it became evident that each of the observed instances of action research processes was not representative of individual discrete processes but actually consisted of multiple, interrelated component processes. More specifically, on many occasions
instances could be parsed out to represent single processes however, there were other instances that reflected multiple interrelated processes. Several examples provided in this chapter are illustrative of how the nature of these processes was inter-related. This is reflective of Gore and Zeichner’s (1990) work that suggests though action research processes can occur naturally in a teacher’s practice, there is a difference between simply being reflective in practice and consciously employing action research in practice. The difference is teachers are more careful and systematic in the way they engage in these activities when they are intentionally employing these processes. They highlight the value of these processes working together and assert that this fosters deeper understandings about teaching that are not likely to be obtained through isolated thoughts or observations about practice. While it is true that, several of the examples observed in Jennifer and Rebecca’s practice can be interpreted as something that most teachers would do in their everyday practice, it is the nature of the ways in which their use of these processes overlapped and connected with each other that sets them apart from just everyday teaching (Gore & Zeichner, 1990). In order to illustrate how these processes were connected it was necessary to provide individual examples of how these processes were employed in practice, but it is important ultimately to consider them collectively to get a clear picture of how these teachers embedded these processes in their practice.

A chart depicting the number of instances a process or disposition was reported or observed to occur in Jennifer and Rebecca’s practice is included prior to its corresponding process or disposition’s description. The purpose for including this chart is to provide an illustration of the frequency with which each of these processes and dispositions was observed to occur. This information is included to provide a sense of
the consistency with which the processes occurred in each teacher’s practice. Illustrating this information also highlights processes and dispositions that were observed less or more frequently in practice. This information is equally important. While it is true that some of the processes were more difficult to capture through observation than others, it is likely that there were additional implications with regard to the frequency processes occurred in practice. For example, what does the frequency with which these processes and dispositions occur in practice say about how we prepare teachers for this work? Are there some processes and dispositions that are more difficult to incorporate in practice than others? These are questions I consider in the final chapter.

The following information is provided in the subsequent sections: a) a brief description of each code category, b) examples of how the participants each reported the implementation of a particular process in her practice in the pre and post interview, and c) examples of how the processes were observed in practice and practice related documents,

Reflection

The process of purposefully thinking about one’s practice was considered an instance of Reflection. Reflection was oral, written, or internal (observable by actions that were indicative of reflection taking place) and took place before, during, and/or after instruction. There were a variety of ways in which Reflection occurred in practice. A code of Reflection was assigned if data represented the occurrence of thoughts about actions as they were occurring in practice (Hendricks, 2009, Schon, 1996). An observed instructional shift in a participant’s practice was considered an example of how Reflection occurred in practice when the participant responded to follow-up questions regarding the instructional shift with dialogue that indicated that reflective thinking was the impetus for
the instructional shift. These thoughts allowed for teachers to engage in immediate evaluation and critique of their practice. Reflection was also assigned if data represented the occurrence of retrospectively thinking about thoughts and actions (Hendricks, 2009; Schon, 1996). This occurred following instruction, took place over time, and encouraged evaluative thinking related to instructional decisions and student learning. A general example of this type of Reflection included conversations or documentation regarding a lesson after it was implemented addressing any of the following topics: consideration of how effective the lesson was, which aspects were effective and/or which were not and why, ways in which the lesson could be modified, and reasons for those modifications. A code of Reflection was assigned if data represented thoughts and actions about practice linked to planning for future practice-related actions (Hendricks, 2009). This included questioning of one’s own practice linked to notions about future practice. An example of this type of Reflection included an instance when a participant discussed or wrote reflectively about a lesson that she had implemented in practice and planned new versions of that lesson based on her reflections to use in future practice.

Observing Reflection in practice was a difficult process. While there were many instances in which reflection was directly observable (e.g., documented reflection contained in reflective journals, direct reflective dialogue in conversations with colleagues or me), there were also several instances where Reflection was not directly observable. Actions that appeared to be indicative of reflective behavior were also noted and considered potential instances of Reflection. This required that I interpret a teacher’s actions as I observed them (such as instructional shifts, modification of lessons from one period to the next) and then follow-up by asking the teacher questions (such as “why did
you stop in the middle of the lesson to define a word?”) to determine if what I had observed was an instance of Reflection. It is likely that there were instances of Reflection that I did not observe due to the complex nature of Reflection. During the interview sessions, I had teachers elaborate on how they used Reflection in practice to supplement, support or refute what I observed in practice and to get a better understanding of how this process occurred in their practice.

During data analysis, instances of Reflection were initially divided into three subcategories derived from the literature regarding reflection in action research: Reflection in Practice, Reflection on Practice, and Reflection for Practice. As analysis progressed it became evident that it was unclear which subcategory was more illustrative of a particular instance of Reflection. Individual instances of Reflection contained aspects of each of the three subcategories. To address this issue the three categories were collapsed under the broader category of Reflection. An instance of Reflection then, was noted when deliberate discussion, documentation, observation, and questioning of one’s own practice was observed that were representative of any of these three subcategories. Example instances of Reflection reported and observed in practice are provided below.

Table 5 # of Instances of Reflection Reported and Observed

<table>
<thead>
<tr>
<th>Participant Name</th>
<th>Reflection # of Instances Reported</th>
<th>Reflection # of Instances Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jennifer</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>Rebecca</td>
<td>19</td>
<td>46</td>
</tr>
</tbody>
</table>

Jennifer

During Jennifer’s pre and post interviews sixteen instances of Reflection were reported. Sixteen instances of Reflection were observed during the observational period and follow-up visit. In her final interview, Jennifer discussed the importance of using
Reflection regularly in practice and that for her it was usually solely an internal process. She emphasized that she often changed what she did mid-lesson if she noticed that something was not working.

I think you need to have everything really well planned out, now sometimes I fly by the seat of my pants, like if I see if there is a tangent going, that’s part of being an effective teacher also. If you see that it’s not working, then go off on a different direction (Jennifer, final interview).

I know a lot of people have to write stuff down but I don’t know if it is a blessing or a curse- -but I have a memory like an elephant so I can remember, when somebody says oh- -yeah I tried this and it worked really well- -I might not write it down, but I’ll file it away in my memory bank and if I come across something else, I go oh yeah, I wonder if that would work with this and I’ll put the two things together (Jennifer, final interview).

Jennifer also reported that she used Reflection as a way to review the effectiveness of her lessons and contemplate how to improve her practice.

Reflection for me is the time I take to sit back and think about the day- -think about what happened. A lot of my reflection process is done internally- -some of it is done where I take notes- -but basically it’s where I think about what works, what didn’t work, how can I do this differently, and even the things that did work- -how can I make them better- -it’s not just this was bad this was good, how can I make the bad better- it’s also how can I make the good better (Jennifer, final interview).

In this example Jennifer is describing how she evaluates her practice. When she referred to “what works” and “what didn’t work” she was describing which aspects of her teaching were effective in meeting the learning needs of her students, and which were not. In the second half of this example Jennifer expresses that it is not enough for her to examine what was or was not effective but she must work to identify ways to improve her practice to make it more effective in meeting the learning needs of her students.

Evidence supporting Jennifer’s use of Reflection was observed in her practice in the following example: Jennifer presented an activity on determining the number of
possible combinations from the math curriculum. Prior to introducing the activity she informed me that because students were having difficulty understanding combinations, she had “tweaked” the lesson to facilitate student comprehension by adding picture manipulatives. Using the manipulatives seemed to clarify the concept of determining the number of possible combinations for her students. After the activity was finished Jennifer mentioned to me that she might modify the lesson a bit more to make it more effective. She said that she thought it would be useful to print out multiple pictures of the same food rather than just having students reuse one set of pictures to make new combinations. She thought that it would be helpful for students if they could paste the pictures down to have a more concrete example of the various combinations. In the examples described above both reported and observed, it was evident that Jennifer engaged in Reflection when she contemplated how to supplement her instruction to facilitate student understanding after previous attempts with the same material proved ineffective.

Additional evidence supporting Jennifer’s report that Reflection was a routine aspect of her practice was observed in the following examples: Jennifer reviewed a lesson in the class reading workbook with the students. When she presented the lesson she discovered that there was a word that the students did not know, fatigue, in one of the reading comprehension questions. Jennifer stopped reviewing the lesson for a few minutes and asked students to come up with ideas about what the word fatigue meant. She elaborated on the students’ responses and provided an accurate definition of the word fatigue. Jennifer then asked students to provide examples of times when they were fatigued and she gave examples of her own. After the impromptu vocabulary instruction
they returned to their reading lesson. When I observed the lesson described above in the reading curriculum, it was clear that Jennifer had veered from what was written in the textbook to discuss a word that was unfamiliar to her students. Her diversion from the curriculum indicated that Jennifer was thinking about her practice as she carried out the lesson and in doing so, identified an area that needed to be addressed, to build on student understanding. This was considered a demonstration of Jennifer’s use of Reflection.

Another observed example of Reflection that prompted an instructional shift occurred during a reading lesson. Initially Jennifer asked the students to echo read a passage that was posted on the overhead along with her. She tried a few times to encourage the students to participate but they seemed disinterested in the lesson. Instead of continuing to try to get students to read along, Jennifer read the passage aloud to the students and then had them answer questions about narrative elements as a group. Students seemed to enjoy this method of presentation quite a bit more than the echo reading and began to participate enthusiastically in the reading lesson. This example was also considered an illustration of Reflection because a teacher must engage in thought throughout the lesson in order to identify whether or not something is working in practice and subsequently make modifications.

Rebecca

Nineteen instances of Reflection were reported during Rebecca’s pre and post interviews. Forty-six instances of Reflection were observed during the observational period and follow-up visit. Rebecca reported using Reflection as a way to think about her teaching and contemplate ways to modify her practice to make it more effective.

…reflection is thinking about what I have done in class, what I am working on, how I would change it, also what other people are working on, looking at what
other people are doing, and if I am already doing that, or if I would want to do that. So it could be like if I went to a conference, looking at what they are doing there and reflecting on whether or not it would work for me—also, looking at what I do and how it is working and or how I can change it.” (Rebecca, Final Interview)

In the following two excerpts from her final interview, Rebecca discussed why and how she engaged in Reflection:

You get through the day and some things work and some things didn’t—-and it’s not enough to say it didn’t work because sometimes it works in one class and not in another—-so you need to note why it worked here and it didn’t work here—-or why it didn’t work across the board—-or if there is something you could do differently—-or should I use it again—-or should I just toss it (Rebecca, final interview).

Usually towards the end of the semester and sometimes not even that long, one of the things that I do is when I go back and put the table of contents in my daybook—it gives me an opportunity to look back at the things I have said, say over the course of a month and think about those things, and I’ll go through and highlight and then that other notebook I showed you where I had the deltas, and whatever—-I’ll take things from my daybook and put them in there so they are kind of in one place—-and ideas that I’ve had—-so that I will look at it at the beginning of the semester, during the semester, and at the end to see—this is what worked this is what didn’t, this is what I would like to try (Rebecca, final interview).

Reflection was exemplified in Rebecca’s observed classroom practice in the following examples: The first example involved Rebecca’s daybook (daily reflective journal). Throughout the observation period Rebecca wrote in her daybook for ten minutes during every class period. I observed two daybooks filled with reflective notes on a classroom bookshelf, illustrating that daily Reflection occurred routinely prior to the observation period. Entries often include reflective notes about each of her classes and lesson implementation, ideas on how to modify the lessons to make them more effective, and practice related questions. Rebecca provided each of her students with a daybook on the first day of class. Students were required to write for ten minutes at the beginning of
every class period over the course of the semester. While the students wrote, Rebecca wrote in her own daybook.

An entry from the daybook she used during the observational period written in response to a unit on literary techniques exemplified Rebecca’s use of Reflection. The journal entry referenced a new method of presenting various literary techniques to her class (The lesson referenced in the overview of Rebecca’s practice at the beginning of chapter 4). Students were divided into groups and asked to present information on specific literary techniques. They were also asked to read and present a synopsis of a story written in the style of their group’s assigned technique. In previous semesters Rebecca presented the literary techniques and read the stories aloud to the students. This was the first time she had handed the material over to her students. The journal entry read:

Took too much time. Why? Too many options, too many lengthy productions, too many technology problems. Tech problems with movie-maker were abundant. Tech problems with photo story, not reviewing before submitting. Main themes, even sometimes plot not addressed, How can I ensure that students understand the story before working on it? Assign literary techniques to groups to cover. Incomplete insufficient work, mini-deadlines to check work before final deadline. Having all students complete one type of project-photo story & power point might help (Rebecca, daybook entry).

Rebecca’s questions and comments to herself about the lesson along with notes to herself on ways to revise it in the future were considered to be demonstrative of Reflection.

Rebecca taught two honors classes and one academic class during the semester in which the observational period occurred. Over the semester she covered the same course material in each of her honors classes. During the observational period, both honors classes were introduced to a unit on flood stories. Rebecca took students in her second period class to the computer lab to research flood stories. Students were provided with a
web address which contained links to several flood stories and were required to read as many as they could while at the computer lab. Rebecca asked students to reflect on the commonalities across the flood stories that they read. When the class returned from the computer lab Rebecca asked students questions about the flood stories, and they recalled only a few vague details from the stories that they read. Their inability to recall story details prohibited them from answering the guided questions that Rebecca had prepared for them (e.g., What theme does the story of the flood convey about trust and obedience? How might the theme apply to people in modern times?). After the second class period was over Rebecca told me that she was going to modify the lesson because it didn’t seem like students really retained much information from researching the flood stories in the computer lab. When Rebecca then introduced the lesson to her third period class, she required the students to read a minimum of five flood stories and write one sentence about each story while they were in the computer lab to serve as a reference for when they returned to class to discuss the guiding questions. Her decision to modify the lesson for the third period class was considered another example of observed Reflection.

Rebecca developed a cumulative notebook as a way to keep track of reflections on past and future lesson ideas. The cumulative notebook included a culmination of ideas extracted from her daybook and various other sources.

The thing I started doing last year was that notebook because, it helps me to- - because by the end of the year you have a million different things in a million different places and you don’t really look at any of it- -so when I have those work days- -I’ll file everything in that book so that I have it in one place- -and I try to apply it when I can (Rebecca, final interview).

Rebecca developed a notation system as a way to remind herself what she was thinking in relation to each of the entries listed in the notebook. The notation system
consisted of symbols: spirals were noted next to lessons that have already been tried and
deltas were noted next to lessons that had not been tried or have been tried but might
work if they were modified. A sample entry in the notebook read:

(delta) Writing Marathon, (Spiral) Book Clubs- (delta)-digital discussion group. I
realized today that I get more out of a book when I tell someone about it. No, that
I naturally tell others about books that I am reading ~ summarizing, analyzing,
evaluating. Not writing essays. Kids need more opportunities to do this. Put
students from reading groups into diversified sharing groups to relate what they
have read and listeners can write an evaluation of the review (Rebecca,
cumulative notebook entry).

Rebecca routinely contributed entries to her cumulative notebook with information
derived from excerpts in her daybook and additional resources (workshops, colleagues,
and educational websites) she acquired related to her practice. Rebecca’s development of
a cumulative notebook and routine entries demonstrated thoughtful fore-planning for
future practice. Excerpts from the notebook described above were digitally documented
during the observational period and served as observed evidence that Rebecca engaged in
Reflection.

Investigating Practice

A code of Investigating Practice was assigned if data represented the
identification of an area of practice in need of further investigation relevant to one’s
practice. Areas included those that (a) related to teaching and learning and were rooted in
one’s own practice, (b) were accessible, (c) were something the participants cared about,
and (d) something the participants wanted to change or improve (Mills, 2007).

Investigating Practice entailed developing a statement regarding the specific practice-
related area identified and then linking that statement to action/s (Mills, 2007). The
following is an example of a statement linked to actions: I would like to explore (action)
how the use of manipulatives influences student comprehension of fractions (*area in further need of investigation*). Open ended research questions derived from statements such as the one provided above were also assigned the code of *Investigating Practice*. This was also a complex process to directly observe therefore it was observed in practice through observations of participants’ reflections and as necessary informal follow-up discussions with teachers about their reflections or actions that seemed to me to be indicative of the occurrence of *Investigating Practice*. If a participant was observed conducting a query in the library database on a practice-related topic, I considered that an example of an action potentially indicative of the occurrence of *Investigating Practice*. In order to determine of this was in fact an instance of *Investigating Practice*, I would then ask the participant to describe what motivated the search for that topic and depending on her response, ask her to elaborate on how she intended to use that information.

Additionally, during the final interview participants were asked to elaborate on how they engaged in *Investigating Practice* to supplement and provide support (confirmatory or conflicting) for the observational data.

**Table 6 # of Instances of Investigating Practice Reported and Observed**

<table>
<thead>
<tr>
<th>Participant Name</th>
<th>Investigating Practice # of Instances Reported</th>
<th>Investigating Practice # of Instances Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jennifer</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Rebecca</td>
<td>2</td>
<td>5</td>
</tr>
</tbody>
</table>

*Jennifer*

Three instances of *Investigating Practice* were reported during Jennifer’s pre and post interviews. No instances of Investigating Practice were observed during the observational period or follow-up visit. The following is one example. Jennifer expressed an interest in considering how to more effectively teach her students to write
short stories and proposed ideas to me regarding how to address the issue (finding better lessons, and chunking the information into mini-lessons).

I’m finding that I’m up there and I’m teaching and I’m modeling—-but they just aren’t seeming to get it—-which as fifth graders having gone through fourth grade and doing so much writing—-because they have gone through fourth grade writing test in North Carolina—-I’m kind of figuring that it is something that I am doing—-so I am actively working right now to find some better lessons and I think maybe I’m giving them too much at a time—-I need to chunk the information into mini-lessons (Jennifer, final interview).

In the above example of *Investigating Practice* as reported by Jennifer, she identified an area of focus in her practice that was in need of further investigation.

*Rebecca*

During Rebecca’s pre and post interviews two instances of *Investigating Practice* were reported. Five instances of *Investigating Practice* were observed during the observational period and follow-up visit. In the following excerpt from her final interview, Rebecca reported an example of how she engaged in *Investigating Practice*:

I know where my weaknesses are pretty well. I can tell in my reflections as far as practice goes—-but intuitively I know where I need to improve—-and I kind of make plans—-like one of my plans was to kind of call a parent a day—-so that I could say that I have done it—-and it’s not the burden like that I have to call 20 parents a day (Rebecca, final interview).

The above excerpt exemplifies an instance of *Investigating Practice*. Rebecca identified an area of focus in need of improvement in her practice, the need for increased communication with parents in a way that does not detract from time with her students, and she articulated ideas linked to actions demonstrated by her plan to call a parent a day.

An example of how Rebecca was observed *Investigating Practice* during the observational period is described below. Upon completion of a unit on literary techniques Rebecca asked her students to complete an assessment of students’ group
presentations and the unit. The assessment required students to answer the following questions: a) What did you learn by completing the project, about literature, about project development?, b) What did you learn by watching others’ projects, about literature, about project development?, c) What would you do differently in your project if you could do it over again?, and d) How could the project assignment be improved? Rebecca collected input from her students about ways to improve the assignment by reviewing their responses to the presentation/unit assessment. Reviewing the student responses prompted Rebecca to write reflectively in her daybook. She wrote that she would like to make sure the students had a thorough understanding of the material that they were responsible for presenting to the class prior to presentation day. In the same entry, she expressed a desire to more effectively convey the information on literary techniques to her students (identifying an area of focus). She also wrote that she would like to streamline the technology piece by having students work using just one or two types of technology rather than allowing them to use any type of technology. Rebecca brainstormed possible ways to address the issues she and the students identified as problematic (linking the area of focus to ideas and actions).

Consulting Other Sources

A code of Consulting Other Sources was assigned if data revealed participants’ searching for, identifying, reading, critiquing, synthesizing, or integrating literature related to their identified area of focus. Literature relevant to any of the following was considered applicable: research area of focus, methodology, theoretical frameworks, and analysis (Hendricks, 2009; Mills & Whitehead, 2007; Koshy, 2005). Utilizing other

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For a full description of literary techniques presentation see the Reflection section.
resources such as educational websites, suggestions from colleagues, attending professional development workshops to build further understanding related to an identified area of focus was also coded as *Consulting other Sources*. There were many directly observable instances of *Consulting other Sources* that occurred during the observational period. However, for those that were not, if I observed an instance in practice that appeared to be a departure from the curriculum\(^10\) (such as an outdoor science lesson about camouflage observed in Jennifer’s practice) or routine practice of the teacher, or if there appeared to be a routine practice or an intentional system implemented by the teacher, (such as the use of a reflective journal or daily time card in Rebecca’s practice) I noted the behavior, instructional practice, or document and asked follow-up questions. In between lessons, during lunch, and planning period I sought further clarification as to whether or not what I observed was an instance of *Consulting other Sources*.

### Table 7 # of Instances of Consulting Other Sources Reported and Observed

<table>
<thead>
<tr>
<th>Participant Name</th>
<th>Consulting Other Sources # of Instances Reported</th>
<th>Consulting Other Sources # of Instances Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jennifer</td>
<td>13</td>
<td>9</td>
</tr>
<tr>
<td>Rebecca</td>
<td>17</td>
<td>8</td>
</tr>
</tbody>
</table>

*Jennifer*

Thirteen instances of *Consulting other Sources* were reported by Jennifer during her pre and post interview. Nine instances were observed in practice during the observational period and follow-up visit. Jennifer reported several ways in which she Consulted other Sources in her practice. In the following excerpt from her interview

\(^{10}\) I briefly reviewed the daily curriculum to be covered in each participant’s classroom at the beginning of each day of the observational period.
Jennifer described sources that she used when she was seeking additional lessons to help her clarify concepts that students did not seem to understand when they were initially introduced to a particular topic. She expressed specifically that she was critical of the credibility of the sources she chose:

well I have a few websites that I go to, but I usually try to find, like NC learn- -those are all really good for the most part- -because it is a state sponsored thing- -scholastic has some good stuff and its reputable- -I try to find materials that are reputable (Jennifer, Final Interview).

In another passage from her interview Jennifer reported that she collected various resources to supplement the curriculum throughout the school year. She put these resources together after determining, through internal reflection, that certain aspects of the curriculum needed to be supplemented to address the various learning needs of her students.

I also have a huge filing cabinet with different things that I clipped out of magazines or found on the internet- and you know I might not teach it now- -but I might teach it later- lesson plans, ideas, articles that are cool- -NC wildlife magazine- -part of the reason why I did was because I thought there might be articles that I could read to the kids you know about different science topics- -I have tons of things bookmarked on the computer (Jennifer, final interview).

Observed instances of Consulting other Sources supported the information Jennifer reported in her interviews. During the reading time of the class day, Jennifer had students participate in an expert reader assignment. Students were assigned a story to read and were broken into groups of four and five. Each student in the group was assigned a role--summarizer, pronouncer, a reader, and questioner--to become an expert in. Jennifer obtained the expert reader lesson idea from a five-day lesson training that she attended and modified it to work with her students. Jennifer selected this lesson because she wanted to help develop student comprehension and student involvement in reading.
Attending a five-day lesson training session to access supplemental materials relating to an identified area of need for her students (reading comprehension) exemplifies Jennifer’s Consulting other Sources in practice.

Another example illustrates Jennifer’s consultation of sources. Jennifer integrated fieldtrips fairly routinely into her curriculum. She felt it was important to provide students in her classroom with multiple authentic experiences to help build background knowledge that other children their age most likely were exposed to outside of school. In prior years there were several students who could not afford the cost of field trips or forgot to bring in their field trip money on time and were left out of the experience. Jennifer investigated ways to make field trips more affordable by asking other teachers at various schools for suggestions (Consulting other Sources). Through this process Jennifer discovered a much more affordable mode of transportation for student field trips. She learned that there were designated activity buses that she could reserve through the school rather than having to charter a bus. Another suggestion she received was to add $.50 to individual student cost to cover the students who could not afford the field trip on their own. This example was considered an instance of Consulting other Sources in practice.

Rebecca

There were seventeen instances of Consulting other Sources as reported by Rebecca during her pre and post interviews. Eight instances were observed in practice during the observational period and follow-up visit. Rebecca expressed that she Consulted other Sources when she was interested in learning more about her practice in general and also when she had a specific area she was interested in investigating further.
In the following selections from her pre interview Rebecca indicated that since completing the action research course she had integrated the process of Consulting other Sources more routinely into her practice:

the reading the keeping up with- -I know that since [the course] I have gone to a lot more workshops, read a lot more journals- -I’ve tried to learn more from other teachers instead of staying kind of insular (Rebecca pre interview).

I have been reading about and trying new methods and more social interaction- -and more- -just trying to I’ve made contact now with people through the workshops with DPI people who are at central office and so we have more interactions (Rebecca pre interview).

Rebecca expressed that students in her class had a difficult time writing to a prompt; they often seemed disinterested, and showed little improvement in their writing. She conveyed that she conducted searches for related resources in an attempt to address these issues. A specific example of how she engaged in Consulting other Sources was reported by Jennifer in her final interview:

I read Katie Wood Ray’s book on Writing Workshops and one of the things she says is they need to be able to choose their subject matter- -and not to say all the time- because they also have to be able to write to a prompt- -but to begin with (Rebecca final interview).

After an observation of Rebecca’s schedule it was clear that she attended practice related workshops fairly frequently. One week after the initial observation period Rebecca attended a writing workshop. I observed through our interchanges that Rebecca developed close relationships with other workshop attendees and frequently consulted them for additional resources. Rebecca expressed that there was little collaboration between her and the other teachers at her school and that she “just kind of does her own thing”. She conveyed that the workshops were where she talked about her lessons, projects, and obtained new ideas about her practice. This year Rebecca created a writing
lab that met after school. She arranged for students to be trained as writing mentors by way of her connections developed through attending various writing workshops, further demonstrating the integration of Consulting other Sources in practice.

Identifying and Gathering Data

A code of Identifying and Gathering Data was assigned if data represented a purposeful and systematic attempt to collect practice and student related information. Data collection methods included student teacher conferences, informal and formal assessments, developing cumulative writing folders, participant observation, journaling, and document review.

Table 8 # of Instances of Identifying and Gathering Data Reported and Observed

<table>
<thead>
<tr>
<th>Participant Name</th>
<th>Identifying and Gathering Data # of Instances Reported</th>
<th>Identifying and Gathering Data # of Instances Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jennifer</td>
<td>12</td>
<td>11</td>
</tr>
<tr>
<td>Rebecca</td>
<td>8</td>
<td>22</td>
</tr>
</tbody>
</table>

Jennifer

Twelve instances of Identifying and Gathering Data were reported by Jennifer. Eleven instances were observed in practice during the observational period and follow-up visit. Jennifer gathered data in practice to make connections with her students, identify areas in need of improvement in her practice, and inform future instructional methods. In her final interview Jennifer described how she typically gathered student data:

I don’t honestly give big unit tests in science or social studies, a lot of their grades come from their class work and class participation- -I try to gauge interest and just do a lot of informal questioning to see if they are getting it-- -and I’ll just ask them- -I obviously have to do some testing or assessments (Jennifer, final interview).
Jennifer reported that when she graded student assessments she often graphed the results onto a line plot so both she and her students were able to see what areas in the curriculum needed to be addressed again.

With math—which I think you saw me do—I’ll do a line plot—and show them exactly—I show the kids this but it is really more for me—how many kids missed what problem and so like if you have 10 kids—that’s like half the kids in the class—then that is an indicator that we have some serious issues there—except for sometimes it is careless mistakes—so when I sit there—and when I look at the data—I have to weed out for myself (Jennifer, final interview).

In the above passage Jennifer described how she gathered assessment data and displayed it graphically to inform her future practice. This example was also observed in practice. During math period Jennifer displayed line plots of student math tests results (from a test they took earlier in the week) and told her students the graph helps by giving her a good visual of what she needs to go over. After displaying the graph, Jennifer reviewed each problem that was missed on the test demonstrating every step of the process for her students.

Routinely throughout the observation period I noted Jennifer asked individual students questions about their interests, friends, and families. Jennifer did not write down any of the students’ responses yet was able to refer back to the information students provided throughout the observation period making connections between students and curriculum. Jennifer was gathering data about her students regularly and used the information that she gathered about them to inform her practice. During the observational period I asked her to explain why she gathered data about her students’ interests. She responded, “that’s a way to make it personal for them—if they know that you listen to them they are going to perform for you more” (Jennifer, follow-up question response).
An example of the behavior she described above was observed in practice. A student was having a difficult time selecting a book to read during Sustained Silent Reading\textsuperscript{11} time. He had a few library books at his desk but he avoided reading them because he did not find them interesting. Jennifer knew what books the student would enjoy reading because previously she had asked him about his interests outside of the classroom and knew which books he had read and enjoyed in the past. She suggested a few books, and he enthusiastically selected one and quickly began reading.

Another example of Gathering data was observed during reading period. A student finished reading an Accelerated Reader (AR) book and received a 90% on the corresponding AR test. Jennifer responded by saying "Good job! Can you tell me how the story ended?" After the student described the ending, Jennifer asked the student if she liked the book. Jennifer did an informal assessment on the student’s comprehension of the story to supplement the results from the AR assessment. This was considered an example of Identifying and Gathering Data because Jennifer obtained information regarding the student’s reading comprehension ability by performing an informal assessment.

Rebecca

Eight instances of Identifying and Gathering Data were reported by Rebecca. Twenty-two instances of Identifying and Gathering Data were observed during the observational period and follow up visit. Rebecca identified areas in which data collection would be useful to inform her practice and routinely gathered student data throughout the observation period. Rebecca described the way she used data in her practice:

\textsuperscript{11} Sustained Silent Reading is a silent period of uninterrupted reading.
Data are the notes I take on my reflection, the interviews I have done with students, their work that I look at—like they have a writing portfolio and in each writing portfolio—they have a log that they identify their strengths and weaknesses—and a brief snapshot of their writing—they have several writing samples in there—and at the end of the term they have a reflection that they write describing their best piece so far and why, anything else that I have assessed or any other reflections that I have done—I try to get feedback from the students on how did this work—did you get anything out of it—that way I know if it’s really useful—cause sometimes you get to the end of the semester and they have no idea what you taught them (Rebecca, final interview).

Several examples of Identifying and Gathering Data reflecting the above report were observed in Rebecca’s practice. Cumulative folders of student writing were observed and documented during the observational period. Rebecca required students complete a writing log for their cumulative folders. The writing log consisted of a table headed in one column with a plus sign and next to it a column headed with a delta. In the plus column students were to write about strengths in their writing skills and in the delta column they were to describe areas in need of improvement in their writing. Rebecca asked students to provide specific examples from their own work to support their responses. She collected this data along with other student artifacts related to her students’ writing development.

Another instance of Identifying and Gathering Data observed was the use of daily time cards. I observed Rebecca ask students to fill out their cards at the end of each class during the observational period. I also reviewed and documented time card entries written during and prior to the observational period. Students were asked to respond, on daily their time cards, to a question posted on the overhead related to the day’s lesson or larger assignment. Rebecca used student responses on the time card as a brief informal assessment to gauge student comprehension and provided feedback on student responses. Sample questions on the time card included: What was the moral of Anansi’s story?,
What might you do now to improve your introduction?, What is the hardest part of writing an outline?, What messages seem to be universal amongst the stories?

**Reviewing and Interpreting Data**

A code of *Reviewing and Interpreting* was assigned if data represented the evaluation and/or characterization of data. The process included reviewing, organizing and evaluating collected data so that its meaning, relationships, and structure were better understood (Hendricks, 2009; McNiff and Whitehead, 2006; Mills, 2007). Methods of data analysis included evaluating data, coding, developing categorization tables, and organizing and reorganizing data. Interpreting data was identified as the process of finding meaning within the data (Koshy, 2005). This included looking at data in a variety of ways for patterns which then enabled the researcher/teacher to gain further understanding of the data (Mills & Whitehead). The process also encompassed recognizing patterns within the data, developing themes about the patterns identified, and relating those themes back to the research question and the literature that had been reviewed (Hendricks, 2009; Mills & Whitehead). Demonstration of any one or more of these behaviors was coded as an instance of *Reviewing and Interpreting Data*.

**Table 9 # of Instances of Reviewing and Interpreting Data Reported and Observed**

<table>
<thead>
<tr>
<th>Participant Name</th>
<th>Reviewing and Interpreting Data # of Instances Reported</th>
<th>Reviewing and Interpreting Data # of Instances Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jennifer</td>
<td>11</td>
<td>4</td>
</tr>
<tr>
<td>Rebecca</td>
<td>5</td>
<td>3</td>
</tr>
</tbody>
</table>

**Jennifer**

Eleven instances of *Reviewing and Interpreting Data* were reported by Jennifer. Four instances were observed in practice during the observational period and follow-up
visit. Jennifer expressed that she evaluated student data to determine what areas of instruction she needed to emphasize or re-teach; to inform her selection of supplemental materials; and to determine in what ways, if any, to augment the curriculum. In the following passage Jennifer provided an example of how she *Reviewed and Interpreted Data* in practice. She explained how she planned to evaluate student benchmark results and discussed how that information would then advise future instruction:

Looking at student test scores—be it their benchmark test scores or just an assessment that I do in the classroom, we just did our nine weeks benchmark test and I’ve got the data and I have had the chance to look at it yet. But that is nice because it breaks down—each question is tied to an objective and I can look and see, like it will break it down to me and let me see that x number of kids missed—that was on objective such and such so that helps me when it comes time to do re-teaching and for math I use sacks in math which spirals and so if I notice that one of the objectives was missed on a benchmark by a lot of kids and I know that three lessons away from now we are going to revisit that objective I can kind of hit it double and do like a mini-assessment after we do the lesson and not wait until the next test—so I do a lot of quizzing—not for a grade so much—just to judge/gauge knowledge (Jennifer, final interview).

During the observational period Jennifer’s employment of *Reviewing and Interpreting Data* in practice was observed to be similar to her report during the interview sessions. An example of an observed instance was when Jennifer reviewed and rearranged students’ math assessment results onto a line plot. Points on the line plot were numbered and each number represented a test question. Underneath each point was the number of students in the class who missed a particular test question. Jennifer used this information to determine the morning math work assignment for the following day. The following is a specific example of how Jennifer used her evaluation of the data to inform the next day’s lesson: Several students missed a regrouping question on the math assessment. After Jennifer handed out the graded math assessments to students and explained the line plot, she thoroughly (step-by-step) reviewed each of the questions that
were missed. The following morning Jennifer assigned five regrouping problems in various formats (word, arithmetic, and picture problems). This example is demonstrative of the inter-related nature of employing action research processes in practice. Some characteristics of this example are illustrative of Identifying and Gathering Data while others are representative of Reviewing and Interpreting Data in Practice. The attributes of this example that qualified it as an instance of Reviewing and Interpreting Data, in addition to an example of Identifying and Gathering Data, are that it is evident that in addition to collecting the student data, Jennifer examined the student data.

Rebecca

Five instances of Reviewing and Interpreting Data were reported by Rebecca. Three instances were observed in practice during the observational period and follow-up visit. Rebecca reported an example of how she engaged in Reviewing and Interpreting Data in her practice:

So a lot of times I don’t even know what I am looking for, you know- -I wouldn’t make a very good surgeon- -I’d go- I don’t know and just start cutting- -Like a lot of times I don’t know what I am looking for- I just know that- -at the beginning of the semester- with the first essays they turn in, and with your first evaluation of how they are reading and anything else- -you don’t know where their strengths and weaknesses are so you are just kind of cutting into them and seeing what they have there and what you can fix- -so you can get an idea of each individual student, but you don’t really have time- -I mean I try to give feedback to them- -and give them specific feedback- -and the reason it takes so much time to get feedback back to them is because I have probably written more than they have written to begin with and tell them what they did right and wrong. I don’t know because writing and reading are so individual- -a lot of times I don’t know what I am looking for- -I’m just looking for that particular kid and what their problem is. Once you get into it- - you begin to identify common themes that are problematic and since I have a cumulative folder- -I have developed an understanding of their strengths and weaknesses over the course of the semester (Rebecca, Final Interview).
In this example Rebecca explained that she gathered data on her students’ writing ability over time through reviewing student work, providing extensive feedback, gathering and storing student writing in one place, and identifying themes in her feedback across pieces of writing regarding recurring problematic areas. In order to identify problem areas across an individual student’s writing it was necessary for Rebecca to Review and Interpret the Data she had collected.

During the observational period I observed several instances of Reviewing and Interpreting Data in Rebecca’s practice. One example was her use of individual cumulative writing folders for each of her students. The folders contained student writing assignments including outlines, rough drafts, and final copies. They also contained a writing log filled out by the student and feedback sheets from Rebecca that corresponded with each piece of work in the folder. Rebecca noted recurring strengths and weaknesses demonstrated in individual student’s writing on her feedback sheets and also provided feedback particular to the piece of writing being reviewed. Specifically, student drafts often contained sections highlighted in blue, yellow, and green. I inquired about why the sections were highlighted and Rebecca informed me that she developed a coding system to facilitate the evaluation of student writing. Blue highlighted segments were indicative of run-on sentences, yellow marked sentence fragments, and green segments indicated problems with subject-verb agreement. Rebecca informed me that she developed this system after noticing a recurring theme across student errors. She stated that highlighting made it easier for her and her students to quickly identify areas in need of improvement in student’s writing. The use of cumulative writing folders, identification of commonly
occurring student errors, and development of a coding scheme were considered
dependence of *Reviewing and Interpreting Data* in Rebecca’s practice.

**Table 10** # of Instances of Sharing Knowledge with Others Reported and Observed

<table>
<thead>
<tr>
<th>Participant Name</th>
<th>Sharing Knowledge with Others # of Instances Reported</th>
<th>Sharing Knowledge with Others # of Instances Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jennifer</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>Rebecca</td>
<td>9</td>
<td>3</td>
</tr>
</tbody>
</table>

Sharing Knowledge with Others

A code of *Sharing Knowledge with Others* was assigned if data represented the
dissemination of knowledge garnered from the implementation of action research
processes in practice to others either verbally or in writing. Data were classified as
*Sharing Knowledge with Others* if knowledge was shared directly (through workshops,
conferences, and presentations) or indirectly (through articles, books, and pamphlets)
with colleagues, other professionals in the field, and more global audiences (Hendricks,
2009; McNiff & Whitehead 2006). *Sharing Knowledge with Others* was observed in a
variety of formats such as written reports, oral presentations, and electronic
communication.

*Jennifer*

Twelve instances of *Sharing Knowledge with Others* were reported during
Jennifer’s pre and post interviews. Six instances of *Sharing Knowledge with Others* were
observed during the observational period and follow-up visit. Jennifer reported that she
often shared information with others in practice. She explained that *Sharing Knowledge
with Others* was mostly an informal process that included talking to colleagues during
lunch and planning periods, sending out emails, and posting information to her class website.

Jennifer continued to build her content area knowledge by participating in educator treks offered at the state Museum of Natural Science. Educator treks were hands-on natural history field trips in which educators participated in the activities and discussed how to integrate the field experiences into their curriculum. In the following example Jennifer discussed sharing information about the educator treks with her colleagues:

I’ve been trying to get other people to go on the educator trips (like to Bald Head Island). I’m trying to get one teacher to go with me on this next one because there are spaces available. I sent out an email telling everybody to look at the State Museum of Natural Science—they have all these opportunities (Jennifer, pre interview)

In the next two examples Jennifer reported instances of *Sharing Knowledge with Others* in practice and explained that the process often occurred through email and informal conversation:

I’m the social studies chair person—-I got some Veteran’s Day stuff that I put out in an email—-email is probably the best thing in the world for trying to share. I got a huge response about the Veteran’s Day stuff (Jennifer, final interview).

If we want to share with others we have to seek them out-- but it’s not organized—-you have to seek it out on your own (Jennifer, final interview).

I observed Jennifer *Sharing Knowledge with Others* on several occasions during the observational period including during a fifth grade team meeting. On one occasion, Jennifer brought materials to the rest of the fifth grade team (a science lesson book) that she had obtained during one of her teacher treks. She had used several lessons in practice with her students in the weeks prior to the team meeting. Jennifer introduced the lesson book to the other fifth grade teachers as a great resource. She showed them which lessons
she had employed in practice, why they were useful, and let the teachers know they could borrow the book from her. In this example Rebecca shared outside resources obtained from *Consulting Other Sources* with her colleagues. This was considered an instance of *Sharing Knowledge with Others*.

**Rebecca**

Nine instances of *Sharing Knowledge with Others* were reported during Rebecca’s pre and post interviews. Three instances of *Sharing Knowledge with Others* were observed during the observational period and follow-up visit. Rebecca reported that she often shared knowledge with colleagues at workshops, as part of a district leadership group, and less frequently with colleagues at faculty meetings. Knowledge that she shared included anything that she tried in practice, whether it was something she came up with on her own or that she obtained from an outside resource “that had a big impact” (Rebecca, final interview). Rebecca expressed that she shared material she was excited about and elaborated, “I think you share professional things for the same reason you share anything else- -because you are excited- -because it’s great” (Rebecca, final interview). According to Rebecca *Sharing Knowledge with Others* was often an informal process that often occurred in the following contexts:

There again, conferences and workshops, I just went to a conference last week- -and I tried to contribute there- -there was a roundtable discussion I contributed to- -also at English department meetings if I have found something that works I’ll tell people- -other staff members there- -or if it’s a new teacher- -like I sat down with the new English teacher- -when she started she came to my house and gave her everything that I had and said do what you want with it- -this is what I do with it, and I’m on the English leadership- -district leadership thing- -so I contribute there if I have something that is useful (Rebecca, final interview).

Regarding with whom and what knowledge she shared:
With other teachers, people at conferences I share—anything that I try that works, you know like—sometimes with the highlighting that I do with the yellow and the blue—-for the fragments and run-ons—-I just kind of came to that—-I don’t think I read that anywhere—-I think I was getting frustrated with trying to identify—-so I decided to highlight and it worked so well in so many ways—-it wasn’t just easier for me—-but the students—-when the papers where all blue they were able to see—-okay that’s a fragment problem—-the students said when they took the writing test—-they thought about that blue paper and went back and looked for fragments all the way through—-because the visual element made it so easy for them to identify what they needed to work on—-so that was just a big breakthrough for me that I took it to the English department and shared it with them (Rebecca, final interview).

One example of *Sharing Knowledge with Others* observed in Rebecca’s practice was the class website that she developed. Rebecca’s class website was the only one listed on the school’s website’s homepage. The website incorporated useful resources for teachers (templates, sample student projects, curriculum-linked game development sites, and create your own rubric sites) and students (links to technology resources for project development, book reviews, supplemental reading lists, sample student projects and project guidelines). The website was considered an example of *Sharing Knowledge with Others* because Rebecca electronically disseminated knowledge gleaned from consulting other sources (various websites, colleagues, and through reflection regarding what resources she found useful) to students and colleagues.

I also observed the tenth grade English district pacing guide that Rebecca wrote prior to the observational period. Rebecca used her knowledge of the tenth grade English curriculum along with information gleaned from writing workshops and other colleagues to inform the development of the pacing guide. Rebecca dispersed information to a global audience through writing the pacing guide for the district. This was considered an example of *Sharing Knowledge with Others.*
Application of new Knowledge in Practice

A code of the *Application of new Knowledge in Practice* was assigned if data represented engaging in thoughtful action such as modification of instructional practice, revisiting and revising understandings about teaching and learning, seeking out new information related to discoveries uncovered during reflection, and employing the newfound knowledge developed through the use of action research processes in practice.

Table 11 # of Instances of the Application of New Knowledge Reported and Observed

<table>
<thead>
<tr>
<th>Participant Name</th>
<th>Application of new Knowledge in Practice # of Instances Reported</th>
<th>Application of New Knowledge in Practice # of Instances Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jennifer</td>
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<td>15</td>
</tr>
<tr>
<td>Rebecca</td>
<td>9</td>
<td>16</td>
</tr>
</tbody>
</table>

*Jennifer*

There were eight instances of the *Application of new Knowledge in Practice* as reported by Jennifer during her pre and post interviews. Fifteen instances were observed in practice during the observational period and follow-up visit. Jennifer reported that her instructional practice was often informed by conducting informal and formal student assessments, consulting other sources, and reflection. In the following passage Jennifer reported an example of the *Application of new Knowledge in Practice* when she described how she planned to use knowledge garnered from *Consulting Other Sources* to inform her future practice:

..there is one article that when we do our thing about food chains and food webs and how plants and animals are interdependent on each other- -in science in the fourth quarter- -there is an article about how there are 15 different species of animals in North Carolina that are endemic and only found in this little tiny niche- -so I’m like okay- that will work for that- -I’ll just file that away in my brain (Jennifer, final interview).
Jennifer’s act of linking this resource to specific curriculum and her intention (though the actual application was not observed) to apply it to practice qualified this as an instance of the *Application of new Knowledge in Practice*. In another selection Jennifer reported that the information she obtained from evaluating students’ reading assessment results helped her to address the needs of two students in her class who were having difficulty in reading:

You can tell- -their score on a reading test- -I can tell if they liked the story or not. The boys did really well on the Iditarod race and Windsong which are both about sled dogs and sled dog racing- -they seemed to really dig that. The girls did well too, but the girls tend to do better in reading anyway, but because it was more of a boy subject- -so when I found that out- -and there were two boys who had done well on those particular stories- -but weren’t doing so well in general- -now the guy that wrote Windsong (Gary Paulsen- - Hatchet- - all of those kind of boy in the wood books) I have a couple boys I steer towards those books, and that is what I use with them- -and say- -well you did really well on windsong- -ya he was pretty cool- -well he has written like 42 books there has got to be one that you will like- -and you tie it to something they know(Jennifer, final interview).

Demonstrating the *Application of New Knowledge in Practice*, Jennifer reported that she used information described in the above example to inform her instructional decisions for two students. She did so by assigning books to the two boys based on their interests using information obtained by evaluating their Iditarod and Windsong reading assessments along with their performance on previous reading assessments.

An example of *Applying new Knowledge in Practice* was observed as Jennifer modified her approach with a student in her class as a result of engaging in *Reflection* in Practice. A student refused to do his work on day one of the observational period.

Jennifer expressed to me that she was going to re-evaluate how to approach him when he refused to do his work. She stated that she knew that in the past his refusal to do work and behavior often escalated when pushed by previous teachers. Jennifer decided to try
to reward him for work that he completed instead of drawing attention to the work he was not doing. On day two of the observational period the student refused to complete his math work. Jennifer said “if you do the problems on the board you can read your book afterwards”. She knew that her student loved to read and it would appeal to him to be offered the opportunity to have extra reading time. The student responded by promptly completing his work. Similar exchanges occurred throughout the day. During SSR journal time the student did not write anything in his journal. After SSR was over Jennifer said to the student, “give me one sentence today about what you are reading about and tomorrow you can give me two”. The student proceeded to write a very long paragraph and then showed it to the teacher. She responded, “Wow, and I only asked for one sentence, nice work!” Over the course of the observational period these exchanges continued, and each day the student’s participation increased. The above example was considered a demonstration of Applying new Knowledge in Practice because Jennifer engaged in Reflection and incorporated the resulting insights into practice.

Rebecca

There were nine instances of the Application of new Knowledge in Practice as reported by Rebecca during her pre and post interviews. Sixteen instances were observed in practice during the observational period and follow-up visit. Rebecca routinely employed the Application of new Knowledge in Practice. A specific example reported by Rebecca included developing a school wide writing lab:

We have started a writing lab - a student run writing lab - we’ve only had one student come so far but it’s kind of early in the semester. And I worked with a woman at central office - the one who’s with the local writing project and she trained - we took a day off - I pulled these six kids out of school who were in the club and I had taught before - and we trained them professionally as writing
mentors/ writing coaches so now once a week they come (Rebecca, final interview).

During the observational period, the above example of Applying new Knowledge in Practice was also observed. The writing lab was developed as a result of Rebecca attending workshops and relationships with colleagues at the district level. Rebecca accessed these resources to facilitate a student-run writing lab. I observed a writing lab session after school during the observational period in which two students were getting trained to be writing mentors by a student who was already trained. Rebecca observed the training session and participated as needed. Creating a writing lab was considered an example of Applying new Knowledge in Practice due to the fact that it was developed as a result of Consulting other Sources (colleagues with the local writing project at the central office) and engaging in Reflection (as demonstrated by the recognition of the need for a school writing lab).

A second reported example referred to how Rebecca applied newly acquired knowledge derived from a book that she read about writing workshops into her practice:

I read Katie Wood Ray’s book on Writing Workshops and one of the things she says is they need to be able to choose their subject matter— and not to say all the time— because they also have to be able to write to a prompt—but to begin with—they are doing a definition essay now—so I’m letting them propose a couple of ideas—of words they will like to define (Rebecca, final interview).

Evidence supporting the above example of Application of new Knowledge in Practice was observed during the observational period. Rebecca asked students to write a definition essay as one of the main writing assignments for the semester. Her students this year were permitted to independently select the words they were going to define. In previous years students were provided with words to define. Rebecca modified the assignment because she learned through various writing workshops and Katie Ray
Wood’s book that students tend to take more risks and demonstrate more sophisticated writing when they are interested in the subject matter that they are writing about. This was considered a demonstration of the Application of new Knowledge in Practice because Rebecca consulted other sources and integrated the information gained from that experience to directly inform her practice. This example is also demonstrative of the inter-related nature of employing action research processes in practice. Some characteristics of this example are illustrative of Consulting other Sources while others are representative of the Application of New Knowledge in Practice.

Disposition Categories Observed during the Employment of Action Research Processes

The following codes were somewhat different than those described in the previous section: Flexibility in Practice, Empowerment, Taking Risks in Practice, Openness to Critique, and Views Learning about Teaching as an Ongoing Process. These codes represent a series of dispositions which the action research literature suggests are likely to accompany the integration action research in practice. Initially I did not envision being able to capture these dispositions in practice during the observational period because of their abstract nature. Through data analysis, however, it became apparent that each of these categories represented dispositions present in both Jennifer and Rebecca’s practice as they engaged in action research processes in practice. Though the literature suggested that each of these dispositions may be characteristic of teachers who employ action research in their practice, specific definitions for these dispositions were not provided. I developed a brief description of each of these dispositions based on the general sense of these dispositions provided in the literature.

\[\text{12} \text{ See Chapter 2 for a more detailed description of these dispositions.}\]
\[\text{13} \text{ The abstract nature of these characteristics is explored further in Chapter 5.}\]
Identifying instances of the dispositions required my interpretation of participant’s actions and in many cases actions over time. I noted actions which seemed indicative of a specific disposition and asked the participants follow-up questions for clarification/elaboration during informal conversations between classes, during planning period, or lunch time. A discussion of how each category was defined and example instances from the data illustrative of each category are provided below.

**Flexibility in Practice**

A code of *Flexibility in Practice* was assigned if data represented a demonstration of a willingness to make modifications to practice in any of the following scenarios: if practice was determined to be ineffective, if more effective methods were discovered, or if supplemental instruction was needed to facilitate student understanding. Instances of *Flexibility in Practice* were expressed verbally, in writing, or observed and occurred during instruction or after instruction took place.

**Table 12 # of Instances of Flexibility in Practice Reported and Observed**

<table>
<thead>
<tr>
<th>Participant Name</th>
<th>Flexibility in Practice # of Instances Reported</th>
<th>Flexibility in Practice # of Instances Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jennifer</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Rebecca</td>
<td>4</td>
<td>12</td>
</tr>
</tbody>
</table>

*Jennifer*

There were two instances of *Flexibility in Practice* reported by Jennifer during her pre and post interviews. Eight instances were observed in practice during the observational period and follow-up visit. Jennifer was aware of her students’ learning needs and often veered from the curriculum to tailor lessons accordingly:

I have kids who don’t know their multiplication tables and if they have to draw pictures then I’m alright with it- -if they have to draw 4 groups of 5- -I’m going to
let you do that now- -but eventually you’re going to learn that 4x5 is 20- -you know I’m okay with whatever means necessary (Jennifer, final interview).

I observed several instances similar to the above reported example of *Flexibility in Practice* during the observational period. Jennifer conducted a mini conference with a student in her class to discuss an alternative Language Arts assignment to foster her vocabulary development. Jennifer asked student to brainstorm synonyms for her weekly vocabulary words. The student was to write down the synonyms and then verify them in a dictionary and thesaurus to determine if she was correct. Jennifer asked her to write down any other interesting synonyms she saw while she was verifying the words.

Jennifer gave the student permission to go to the library during reading time to work on the assignment or use the online computer dictionary and thesaurus. While this student worked on her alternative assignment, other students in the class were working on vocabulary lessons from their reading workbooks. This example was considered indicative of *Flexibility in Practice* because Jennifer supplemented vocabulary instruction to meet the learning needs of an individual student in her class.

I also observed Jennifer’s willingness to seek out and utilize alternative methods regarding how to teach regrouping in an attempt to further facilitate student understanding of this concept. Jennifer did so when she noticed her instructional methodology did not effectively meet the needs of her students. Students were having difficulty with the concept of regrouping as they were working on a class lesson. Jennifer reviewed how to regroup with her students stating, “you are taking ten tens and making one of those and moving it over here- -and now it’s ten ones” (Jennifer). After the review several students in the class continued to have difficulty with the concept of regrouping so Jennifer distributed base ten blocks and demonstrated a more concrete example of
regrouping for her students. The addition of a concrete example to the lesson seemed to clarify the concept of regrouping for students. The above example was considered a demonstration of *Flexibility in Practice* because Jennifer modified her methods when she discovered them to be ineffective.

*Rebecca*

There were four instances of the *Flexibility in Practice* reported by Rebecca during her pre and post interviews. Twelve instances were observed in practice during the observational period and follow-up visit. In her pre interview Rebecca reported an instance of *Flexibility in Practice* when describing the process she underwent in developing an assignment based on the story of Gilgamesh. In the following passage Rebecca explained an assignment she used to teach Gilgamesh in prior years and then described how she came to and executed a modified version of the assignment:

We had done body biographies— you probably saw them—in the past—and I was thinking about doing something like that—and then they said—well can we do it outside—and I said I don’t know about that—and they were like—can we get sidewalk chalk and do it—and I was like no—they were like, “come on lets go outside”—and I said well we are going to have to change it if we are going outside—because we don’t want a bunch of bodies laying on the sidewalk—we can do a mural maybe—and so then I assigned them sections of the story and they had to plan it before we went out—and find a piece of text to include—and the next day I brought in sidewalk chalk and we went out and did it—and we just loved it and it just turned out really neat—and I did a photo story and I took pictures of it—and it’s funny because the whole story is about impermanence—and then it rained that night—I was like we can pretend we planned it that way (Jennifer, pre interview)

Rebecca expressed an interest in increasing student involvement and enthusiasm about the stories they read in class. The modification she made to the assignment described above resulted in heightened student interest. Students continued to favorably discuss the assignment after it was completed.
Demonstrations of *Flexibility in Practice* similar to that described above by Rebecca were observed during the observational period. Rebecca tailored an assignment, the definition essay, to address student interests. Students were permitted to select a term of their choosing to define. Examples of terms students selected to define were “boo”, “player”, “Latino”, and “respect”. Once a term was selected students were asked to define them through use of synonyms and metaphors. In prior years students were required to select terms to define from a list developed by the Rebecca. Through a review of Rebecca’s written feedback regarding student cumulative writing folders I observed that students were more willing to experiment with their vocabulary use, sentence structure, and writing style when they were permitted to select their own word. To encourage further development in her students’ writing ability, Rebecca demonstrated a willingness to modify an assignment to more effectively address the interests of her students.

Another example of *Flexibility in Practice* demonstrated by Rebecca was observed when a group of students who were supposed to summarize a story representative of a literary technique could not carry out the presentation they had planned. They filmed a movie to convey the story summary and it was deleted from the class hard drive. Rebecca quickly came up with an alternative way for the group to present, she asked the group to do a live performance of the story. The entire class went outside and observed the group’s live performance and introduction to the literary technique. Rebecca’s impromptu response on how to modify the assignment and willingness to leave the classroom was considered a demonstration of *Flexibility in Practice*. 

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Empowerment

A code of *Empowerment* was assigned if data represented a demonstration of confidence leading to practice related action. Written, verbal, and observed behaviors that occurred in conjunction with employing action research processes including: developing a view of self as knowledge creator, participating in school committees for change, advocating for students and teachers, and participating in extracurricular activities were coded as a demonstration of *Empowerment*.

### Table 13 # of Instances of Empowerment Reported and Observed

<table>
<thead>
<tr>
<th>Participant Name</th>
<th>Empowerment # of Instances Reported</th>
<th>Empowerment # of Instances Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jennifer</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Rebecca</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

*Jennifer*

There was one instance of *Empowerment* reported by Jennifer during her pre and post interviews. Two instances were observed in practice during the observational period and follow-up visit. Jennifer expressed confidence in her knowledge about teaching and reported that it permitted her to veer from routine practice, incorporate supplemental materials, and make modifications to existing curriculum. She alludes to this in the following statement:

> I try to think about what I have done in the past - I think there are a lot of teachers who say this is what the book says - I’m going to do what the book says and I am not going to do it any differently - they don’t allow themselves that prior knowledge that they have learned from before to make things different in the future (Jennifer, final interview).

During the observational period Jennifer demonstrated a sense of *Empowerment* when she took action to ensure that she could continue taking her students on several field trips during the school year. There was a new principal at Jennifer’s school during the year
that the observations took place and several administrative changes were enforced. Administration presented faculty with stricter policies regarding field trips (e.g. number of chaperones needed per class increased, stricter guidelines regarding who qualified as a chaperone were enforced, and approval of paperwork by several different school administrators was required). The newly enforced policies paired with the high costs associated with field trips made it difficult for Jennifer to incorporate them as frequently as she had in prior years. Jennifer often utilized field trips as extensions on student learning because many of her students had limited background knowledge or experiences related to the content being taught. In response to the stricter guidelines, Jennifer advocated for support in identifying possible chaperones and secured alternative modes of transportation to make the cost of field trips more affordable for students. Jennifer’s willingness to voice her concerns and request assistance in identifying chaperones along with her resourcefulness in obtaining alternative transportation was considered an example of Empowerment in practice.

A more general example of Jennifer’s demonstration of Empowerment was apparent when observing her leadership roles at her school. Jennifer was the fifth grade “grade chair”, a member of the committee for school change, and collaborated with the student council. Jennifer often offered suggestions about teaching and provided supplemental, content-specific resources to her colleagues.

Rebecca

There were three instances of Empowerment reported by Rebecca during her pre and post interviews. Three instances were observed in practice during the observational period and follow-up visit. Rebecca reported feeling a sense of Empowerment as a result
of identifying outside resources and developing relationships with colleagues at workshops:

So it’s given me more, um, I think it has empowered me more because through going to workshops I have met more people who have enabled me to do things that I wouldn’t have been able to do on my own. Also it gives me a better--I mean the people who can help me--who would be more resources--have more faith in me because I am willing to go the extra mile. I mean if you don’t make those extra connections then they are not there to help you anyway--but also it doesn’t look like you are trying as hard, so they are not necessarily as willing, whereas if I need something, I don’t have a problem, I can get it pretty quickly because they know that I am trying (Rebecca, final interview).

The writing lab that Rebecca created during the year that classroom observations occurred served as evidence in support of Rebecca’s report of Empowerment in practice. Rebecca accessed resources resulting from connections made with others through workshops and other opportunities to develop the writing lab. She identified a school-wide need for a writing lab and served as an advocate for her students by presenting the idea to school administration and pursuing the development of the writing lab.

Another, more general example of Rebecca’s demonstration of Empowerment was apparent when observing her involvement in school leadership roles. Rebecca was the advisor for the school writing club and wrote her district’s pacing guide for tenth grade English. More frequently than participating in in-school faculty collaborations, Rebecca served as an advocate for the student population by focusing her efforts on developing resources for students school-wide.

Taking Risks in Practice

A code of Taking Risks in Practice was assigned if data represented verbal, written, or observed willingness to depart from routine practice, embrace conflict or
discomfort, and face potential negative consequences and unknown outcomes while striving to become a more effective teacher.

**Table 14 # of Instances of Taking Risks in Practice Reported and Observed**

<table>
<thead>
<tr>
<th>Participant Name</th>
<th>Taking Risks in Practice # of Instances Reported</th>
<th>Taking Risks in Practice # of Instances Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jennifer</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Rebecca</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>

*Jennifer*

There were no instances of *Taking Risks in Practice* reported or observed in Jennifer’s practice during the observational period.

*Rebecca*

There was one instance of *Taking Risks in Practice* reported by Rebecca during her pre and post interviews. Five instances were observed in her practice during the observational period and follow-up visit. Rebecca reported that effective teachers were willing to make mistakes in practice. In the following example Rebecca expressed that she learned from mistakes she made in the past in her practice and as a result was open to *Taking Risks in Practice*:

*Taking Risks in Practice*:

They are not afraid— and I know this sounds wrong—[effective teachers] are not afraid to mess it up. Because I think in my first year I probably didn’t teach anything at all, but I learned a lot. I taught much better my second year and my third year, and I still screw up now— but I learned something different and I am more willing to take risks with my students now (Jennifer, pre interview)

During the observational period Rebecca demonstrated *Taking Risks in Practice* when she relinquished instructional control of an entire literary unit to her students. Students were assigned to teach the information from the literary unit to each other. Rebecca expressed that this was the first time she attempted something like this in practice and it was difficult for her to do because the unit was a favorite of hers and she was unsure if
her students would successfully convey the information to their classmates. She explained that her decision to change the unit was prompted by the notion that students would be more invested in learning the content if they had a sense of autonomy and ownership with the material.

Another example of an observed instance of *Taking Risks in Practice* involved vocabulary instruction. Rebecca integrated vocabulary instruction in authentic contexts. These contexts included when students encountered unknown words in books they were reading, assignments they were working on, reading peer’s work, or in discussions with Rebecca or classmates. The class often discussed unfamiliar words as they were identified. Rebecca asked students to write and define the unknown words and identify and list synonyms for the unknown words in their daybooks.

Rebecca’s approach to teaching vocabulary to her students differed significantly from other English teachers in her school. A majority of the English teachers in the school provided students with a list of ten vocabulary words at the beginning of the week, students worked with those words throughout the week, and then were tested on those words at the end of the week. Rebecca explained the purpose for selecting the method of vocabulary instruction that she implemented with her students. She felt that if her students learned the words in authentic contexts, rather than from lists in vocabulary books, they were more likely to remember them at the end of the year and integrate them into their permanent word bank.

Veering from the standard lists of vocabulary and teaching words in authentic contexts was a risk because in doing so students were often introduced to less vocabulary words per week than students who received lists of vocabulary. Rebecca explained that
initially she was unsure of how veering from the vocabulary lists would impact her students’ vocabulary knowledge. She stated that she felt confident that they would be more likely, than students receiving lists of vocabulary words, to retain the meaning of those words beyond her classroom. Rebecca expressed that she was willing to take these types of risks in practice because she knew that there were other career options available to her and if she was going to continue to be a teacher she was going to do it the way she knew worked for her students.

*Openness to Critique*

A code of *Openness to Critique* was assigned if data represented verbal, oral, or written receptiveness to commentary that conflicted with or supported an individual’s classroom practice or beliefs about teaching.

**Table 15 # of Instances of Openness to Critique Reported and Observed**

<table>
<thead>
<tr>
<th>Participant Name</th>
<th>Openness to Critique # of Instances Reported</th>
<th>Openness to Critique # of Instances Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jennifer</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Rebecca</td>
<td>7</td>
<td>1</td>
</tr>
</tbody>
</table>

*Jennifer*

There was one instance of *Openness to Critique* reported by Jennifer during her pre and post interviews. One additional instance was observed in her practice during the observational period and follow-up visit. Jennifer comfortably (as demonstrated by her body language and tone of voice) admitted that she was aware of times when her instruction was ineffective. The acknowledgement of her teaching imperfections enabled Jennifer to be amenable to identifying and integrating alternative methods in her practice.

I’m finding that I’m up there and I’m teaching and I’m modeling--but they just aren’t seeming to get it--which as fifth graders having gone through fourth grade and doing so much writing--because they have gone through fourth grade writing
test in North Carolina- I’m kind of figuring that it is something that I am doing- -so I am actively working right now to find some better lessons and I think maybe I’m giving them too much at a time- -I need to chunk the information into mini-lesson (Jennifer, final interview).

Jennifer reported that some of her colleagues, with whom she had close relationships with, often teased her when she shared practice related information with them, calling her a “brown-noser” and a “dork” (Jennifer, final interview). During the observational period, I observed one of her colleagues referring to her jokingly as “the queen of useless information” when she shared a new lesson idea with him. Her colleague then used the shared lesson idea with his students. Jennifer continued to share information with her colleagues despite their mocking. This was considered an instance of Openness to Critique because Jennifer was willing to accept, and regularly received criticism, even if it was in jest, from her colleagues for sharing practice related information with them. Her colleagues’ comments did not deter her from continuing to share practice related information.

Rebecca

There were seven instances of Openness to Critique reported by Rebecca during her pre and post interviews. One additional instance was observed in her practice during the observational period and follow-up visit. Rebecca reported that she asked her students at the end of each year what lessons and assignments were useful and memorable to them. She used their responses to inform her instructional plans for the following year.

I’ll ask students usually at the end of the year what’s your favorite thing we read, or what would you do away with? What worked and what didn’t- -I want you to comment specifically on what you learned. So I kind of notice- -with literature it’s what they remember (Rebecca, final interview).
In the above reported example Rebecca opened herself to her students’ critique by asking them questions that provoked critical responses about her practice. Rebecca expressed an awareness of the fact that there were aspects of her practice that were unsuccessful. She moved beyond recognizing that a particular method was ineffective and questioned herself to discover what about it was unsuccessful and why.

Rebecca expressed a similar sentiment in her demonstration of Openness to Critique, in the following example of reported Reflection on Practice:

you get through the day and some things work and some things didn’t- -and it’s not enough to say it didn’t work- -because sometimes it works in one class and not in another- so you need to note why it worked here and it didn’t work here- - or why it didn’t work across the board- -or if there is something you could do differently- -or should I use it again- -or should I just toss it (Rebecca, final interview).

Rebecca reported that when she shared practice related information with her colleagues they often responded critically and with an air of condescension:

I get aw- -you’re so excited- -sometimes I feel like such a dufus- - because I get- - I think it’s great how excited you are- - aw you’re cute- -they treat me like a 19 year old- -you’re so naïve- -aw- -you wait until next year (Rebecca, final interview).

After receiving negative feedback from her colleagues Rebecca continued to share information with them. This was considered an instance of Openness to Critique because Rebecca was receptive to critique from her peers.

An observed instance of Openness to Critique that occurred during the observational period included Rebecca’s use of Daily Time Cards and project assessments with her students. Rebecca openly welcomed critique from her students regarding daily lessons and student project assignments. Students were asked to answer brief questions about the daily lessons on their time cards. The instructions for the
project assessment evaluations required students to provide feedback on recently completed assignments to Rebecca addressing the clarity of the content and effectiveness of the method of delivery. Rebecca used the information garnered from student responses to inform her practice.

*Views Learning about Teaching as an Ongoing Process*

A code of *Views Learning about Teaching as an Ongoing Process* was assigned if data represented verbal, written or observed actions in support of the notion that learning about teaching is a continuous process that endures throughout one’s entire career in teaching.

**Table 16 # of Instances of Views Learning about Teaching as Ongoing Reported and Observed**

<table>
<thead>
<tr>
<th>Participant Name</th>
<th>Views Learning about Teaching as Ongoing # of Instances Reported</th>
<th>Views Learning about Teaching as Ongoing # of Instances Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jennifer</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Rebecca</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

*Jennifer*

Three instances of *Views Learning about Teaching as an Ongoing Process* were reported by Jennifer during her pre and post interview. Two instances were observed in practice during the observational period and follow-up visit. Jennifer expressed that she viewed learning about teaching to be a lifelong process. In the following passage Jennifer clarified that she returned to school to pursue her reading licensure to improve her efficacy as a reading teacher for her students:

My intention of going into the program was never to become a reading teacher- -I just always felt like teaching reading was one of my weakest points- -I never intended to- -because everyone was like oh you want to be a reading specialist- no-well than why are you doing it?- -because I want to be a better reading teacher (Jennifer, pre interview).
Jennifer reported that she pursued additional opportunities to further develop her knowledge about teaching beyond working towards her reading licensure. Specifically, Jennifer partook in several field experiences offered through the state Museum of Natural Sciences. Jennifer participated in a field expedition over the weekend between week one and two of the observational period. During her trip Jennifer and other educators learned about the ecology of an island through a series of hands-on activities. Jennifer expressed that she registered to attend a similar expedition to explore high mountain ecology the following week. She planned to use the information from both experiences to present a compare-contrast lesson to her students about the difference between coastal and mountain ecology. The information obtained from Jennifer’s experience working with other educators in conjunction with her participation in the activities fostered both increased background knowledge in science and new pedagogical understandings for Jennifer.

Rebecca

Three instances of Views Learning about Teaching as an Ongoing Process were reported by Rebecca during her pre and post interview. Two instances were observed in practice during the observational period and follow-up visit. Rebecca expressed the following about an effective teacher:

I think it is somebody who can develop a rapport with students and who knows their material but who is also willing to learn more about it (Rebecca, pre interview).

She relayed that she was aware that there was room for improvement in her teaching and that she wanted to keep learning how to improve upon her practice:

When you go to a workshop you are around people who are interested in learning and you know they really enjoy it and it’s more about the love of teaching than it
is about all the pains in your classroom. So I like that, I know that I’m not as
good as I could be and so I want to learn as much as I can and try different things
(Rebecca, final interview).

An instance of *Views Learning About Teaching as an Ongoing Process* observed
in Rebecca’s practice included her participation in various writing workshops and
professional development opportunities. Rebecca demonstrated a desire to participate in
as many available opportunities to develop her knowledge about teaching as her schedule
would allow. A second example that Rebecca *Views Learning about Teaching as an
Ongoing Process* was noted during the observational period as Rebecca wrote in her
daybook. Rebecca’s routine entries were indicative of a desire to learn about her own
teaching through the continued use of reflection in, on, and for practice.

Action research processes were observed to work together, rather than in
isolation, in Jennifer and Rebecca’s practice as evidenced by several of the examples
described above. It was also evident across interview and observational data that these
processes were employed by Jennifer and Rebecca in everyday teaching practice related
contexts. A discussion of my interpretation of the findings, corresponding implications,
and conclusions are provided in Chapter 5.
CHAPTER 5: DISCUSSION AND CONCLUSIONS

Action Research as Effective Teaching

In this study I explore how the employment of action research processes systematically and connectedly in practice align with the characteristics of effective teaching. I did not investigate the relationship between teacher’s employment of action research processes and student achievement, an area that extends beyond the scope of this study but is an important topic for future research. While I do not argue in this dissertation that Rebecca and Jennifer were exemplar teachers—in part because I did not have access to student assessments—the qualities that were observed as Jennifer and Rebecca employed action research processes in their practice were reflective of the literature regarding effective teaching (Cruickshank & Haefele, 2001; Good & Brophy, 1986; Harris, 1998; Porter & Brophy, 1988). Those who employ action research processes are systematic and purposeful in their practice as they reflect; identify, gather, and interpret data; identify areas in their practice that are need of modification and development; consult other sources to become more informed; question their underlying beliefs about teaching; consider alternative perspectives; and modify their practices integrating the newfound knowledge gained from each of engaging in each of these processes. Teachers who demonstrate these behaviors are more effective in meeting the
learning needs of their students (Auger & Wildman, 2000). My analysis suggests that Jennifer and Rebecca instantiated these behaviors in their practice.

These behaviors can be aligned with the following characterizations presented in Cruickshank and Haefele’s (2001) review of the literature regarding effective teachers: *expert, reflective, respected, dutiful, and analytic*. Teachers who embed action research processes in their everyday practice also embody the following characteristics of effective teachers, they are: reflective in their practice and continue to develop their knowledge about teaching (Cruickshank & Haefele, 2001; Harris, 1998; Porter & Brophy, 1988); thoughtful about their practice and routinely evaluate their work; welcome the responsibility of fostering student learning (Porter & Brophy, 1988); and consider the effectiveness of their instruction which aids in developing their knowledge about teaching and informs the way they plan for future instruction (Porter & Brophy, 1988).

While present in the practice of both teachers, these behaviors were more evident in Rebecca’s practice as she exhibited an action research teaching stance, or an approach to teaching that entails the consistent systematic and connected use of action research processes in everyday practice related contexts to inform practice. This was illustrated in the narrative that opened Chapter Four. While Jennifer used action research processes systematically, there was a distinguishable difference between hers and Rebecca’s employment of action research processes in practice. Unlike Rebecca, Jennifer was not observed to use these processes connectedly over time. Rather she engaged in a moment-by-moment use of these processes in practice making little or no connections across

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14 See Chapter 2 for a more in-depth discussion of how these processes align with the literature on effective teaching.
processes. However, both teachers were reflective in their practice, and willing to accept the uncertainty of teaching (Shulman, 1987) that accompanies that act of questioning one’s practice and recognizing failures in teaching as opportunities for learning (Cochran-Smith & Lytle, 1993). Action research processes employed in Jennifer and Rebecca’s practice served as a valuable resource for understanding and improving their practice.

While it is true that several of the examples observed in Jennifer and Rebecca’s practice can be interpreted as behaviors that most good teachers would exhibit in their everyday practice, it is the nature of the ways in which their use of these processes overlapped and connected with each other that sets them apart (Gore & Zeichner, 1990). Providing individual examples of how participants employed action research processes was necessary to illustrate the systematic and connected nature of action research processes, or lack thereof, as they were embedded in practice. However, it is important to consider these individual examples collectively to formulate an understanding of how they worked in tandem to foster qualities of effective teaching. It is the systematic connectedness that I consider to be illustrative of the application of action research more broadly and representative of characteristics of effective teaching.

The Systematic and Connected Nature of Action Research

Action research processes appeared to be an integral aspect of Jennifer and Rebecca’s everyday teaching practices. Both teachers routinely used the knowledge garnered from employing these processes in practice to inform their instructional decisions. The processes were employed without a fixed order and often occurred cyclically. Jennifer integrated action research processes systematically throughout the
school day, but made limited connections across processes as she employed them over longer periods of time. Rebecca was systematic in her use of action research processes both throughout each school day and over the course of the school year. There was evidence that Rebecca’s systematic and connected use of these processes over time led her to engage in deep considerations about her practice, and as she did so, she purposefully developed her teaching knowledge and modified her practice in ways that were reflective of her newfound knowledge. As discussed in chapter 1, systematic use of action research processes is the purposeful and methodical use of action research processes in practice. Connected use of these processes entails moving back and forth between processes pulling through a specific practice related focus and while doing so making links to insights gained from engaging in each of these processes back to the targeted practice related area. An example of the nature of systematic and connected use of action research processes in practice can be seen in Rebecca’s practice as she intentionally engaged in Reflection in her daybook about a unit on literary techniques, Identified and Gathered Data about the unit on literary techniques through the use of student reflective assessments and daily time cards, Reviewed and Interpreted Data to determine students’ level of understanding of the literary techniques unit and to inform future iterations of the assignment, and Applied new Knowledge to practice through the development of a modified unit outline on literary techniques in her cumulative notebook which she identified she would make use of in the future. As Rebecca engaged in each of the action research processes described above she remained focused on one area of practice, a unit on literary techniques and, more broadly, on helping students understand literary techniques in their own writing and that of others; This example was considered
a demonstration of connectedness across the processes and was illustrative of many other such instances across Rebecca’s practice.

Embedding action research processes in this way provided opportunities for Rebecca to view her teaching in-the-moment as well as view her practice more broadly in retrospect. Both perspectives (in-the-moment and retrospective) contributed uniquely to her understandings about her practice and future teaching actions. In-the-moment observations, reflection, modifications to practice, data gathering, and review of practice-related sources (e.g., teaching journals, professional development materials, teacher websites) permitted Rebecca to document detailed contextual information and insights regarding her thoughts about practice soon after they occurred. Retrospective scrutiny enabled Rebecca to recognize overarching themes in her practice, which were not discernable when reflections, modifications to practice, data, and individual practice-related sources were viewed in isolation. The themes became pronounced when she made connections across these individual action research process outcomes over time.

Influences on Practice

For both Jennifer and Rebecca, it was likely a combination of circumstances and an inclination that led them to integrate action research into their practice in the ways described in this and earlier chapters. Circumstances that may have influenced each teacher’s method of integrating action research processes included: amount of planning time available, number of transitions throughout the day, variety of content to be covered, age of the students being taught, years of teaching experience, and structure of the required curriculum. These circumstances were often unavoidable and it is important to consider how they may have influenced the implementation of action research processes.
in practice. This information is important to consider as it provides a more comprehensive picture of these teachers when interpreting the results of the analysis, formulating conclusions, and considering implications for practice. In the following section a discussion of factors that may have influenced how reflection, using data, sharing knowledge, and notions about teaching were demonstrated in practice by Jennifer and Rebecca is provided. Additionally, the ways in which these circumstances may have positively or negatively impacted Jennifer and Rebecca’s integration of these processes is described.

**Reflection**

There was a discrepancy regarding the amount of time available for Jennifer and Rebecca to reflect upon their practice. Jennifer’s weekly schedule included four one-hour planning periods, one hour of which was designated for team meetings for which she was the grade-chair. Planning periods occurred in the faculty break room, and there were usually other teachers present during planning time. Jennifer taught one fifth grade class and covered several content areas throughout the school day. Shifting gears between content areas and escorting students to lunch and special area classes (Music, P.E, and Art) each served as obstacles likely hindering the routine incorporation of written reflection in Jennifer’s practice in particular. Rebecca taught tenth grade English to three separate groups of students. Her schedule included one and one half hour planning periods every morning throughout the week. Planning periods occurred in an empty classroom or the English office which was often empty during Rebecca’s designated planning time. Because Rebecca taught high school English, students were old enough to engage in more independent work and assigning students reflection time
for several minutes at the beginning of each class period coincided with the English curriculum. These factors likely influenced Rebecca’s ability to engage in written reflection on a routine basis.

Qualitative Differences in Reflection

Jennifer and Rebecca were both reflective and demonstrated purposeful instructional moves in practice with a goal of more effectively meeting the learning needs of their students. Various types of reflection (in, on, and for practice) were observed in a variety of forms. As I observed Jennifer and Rebecca however, it became evident that their employment of reflection was qualitatively different in nature. For Jennifer reflection was oral, or internal. I did not observe written reflection in her practice. Her reflections centered around short-term practice related issues, and often resulted in in-the-moment instructional shifts. Because her reflections were not written, there was no tangible way for her to revisit her thoughts about her practice, or identify overarching themes across a series of reflections. Reflecting across a series of one’s reflections is a process which can often result in a broader sense of one’s notions about practice (Clift, Houston, Pugach, 1990). I did not observe Jennifer making connections across reflections. Instead, her reflections, like the employment of the other action research processes were not connected to each other in practice. The internal nature of Jennifer’s reflections may have been one reason why I observed it less frequently in her practice.

A majority of Rebecca’s reflection was written. She was systematic in her approach to reflection, working in time every class period to write in her daybook. This provided Rebecca with a consistent view of her notions about practice over time. She revisited her reflections regularly and developed tables of contents at the beginning of
each daybook after reviewing her entries, to provide her with a broader view of the themes present across her reflections. She considered and reconsidered her questions about practice in her reflections. This process enabled her to engage in reflection that focused on short-term as well as long-term notions about practice.

**Using Data**

A school-wide adopted curriculum served as the foundation for content taught in Jennifer’s classroom. Though there was some flexibility with regard to the method in which data were collected, the curriculum seemed to dictate, in part, what type of data was collected. For example, the math curriculum used by Jennifer included corresponding math assessments. In addition to using the assessments provided, Jennifer routinely conducted informal assessments as a supplementary method of data collection to gather additional data about her students’ level of understanding math concepts.

Jennifer taught four content areas each school day (Language Arts, Math, Science, and Social Studies) which limited the extent to which she could collect and evaluate data associated with a particular content area, unless she was willing to compromise time allocated for other teaching activities.

In contrast, Rebecca’s curriculum was dictated by the English10 district pacing guide that she authored. The flexibility within the curriculum, as it was written in the pacing guide, left Rebecca free to determine how and what type of data she collected in her classroom. Additionally, the fact that Rebecca was responsible for covering only one content area was a likely explanation for why she was able to develop in-depth systems of collecting and evaluating data in her practice such as cumulative writing folders, daily time cards, writing logs, daybook entries, and a cumulative teaching notebook.
Sharing Knowledge

Jennifer maintained close relationships with other faculty members at her school. She served as the fifth grade-chair and therefore was responsible for facilitating team meetings which occurred on a weekly basis. Though team meeting agendas absorbed most of the discussion time, regular contact with her colleagues offered opportunities for Jennifer to share newly acquired knowledge and receive resources from other teachers. Beyond team meetings, opportunities to share knowledge often occurred informally, in hallways, over lunch, and through emails, and needed to be sought out by Jennifer.

Rebecca was somewhat ostracized from other faculty in the English department because she frequently volunteered to participate in roles that extended beyond that of a regular classroom teacher (authoring the pacing guide, developing the school-wide writing lab, and advising the writing club), and she often veered from standard teaching methods used by her colleagues (including her use of authentic contexts for vocabulary instruction and integrating technology into assignments regularly). The dissimilarity between Rebecca's teaching methods and that of other members of the English faculty led to a mutual desire to limit interaction with each other. Rebecca turned to faculty members outside of her department (the art teacher and social studies teachers) for practice related resources and to share newly acquired knowledge. These factors were likely to have influenced the level of sharing knowledge with and receiving knowledge from other English teachers in her school.

Both Jennifer and Rebecca took advantage of workshop opportunities beyond those offered through their schools. They shared knowledge with other colleagues at their schools, and though in both cases were often ridiculed for doing so, continued to do that.
Both teachers expressed that they felt more comfortable sharing knowledge with those who attended conferences and workshops, specifically those who were excited about and interested in learning more about teaching.

Jennifer and Rebecca’s application of *Sharing Knowledge* and *Consulting Other Sources* in practice was a departure from how teachers typically behave in practice. Teachers generally share knowledge informally through “moment-by-moment exchanges” (Little, 1990, p. 514) which are often brief and sporadic; teachers may “supply sympathy of the sort that dissuades teachers from the kind of closer analysis of practice that might yield to solutions to current problems” (Little, 1990, p. 517). The discussion of classroom failures, critical questions about practice, and the expression of frustrations are not encouraged in teaching (Cochran-Smith & Lytle, 1993). Teachers who engage in research practices in their classrooms however, ask questions of their practice. Though they may be self-sufficient, competent, and certain in their practice they also pose problems common routines, and attempt to make visible much of what is taken for granted about teaching and learning. They often count on other teachers for alternative perspectives on their work. They seek help not because they are failing but because they are learning (Cochran-Smith & Lytle, 1993, p. 87).

This was true of Jennifer and Rebecca.

Another deterrent to sharing practice related knowledge with others is that it is difficult for most teachers to explicitly articulate their knowledge about teaching. Describing to others what is often referred to as intuitive knowledge, is a skill very different from that of conveying content to students. This coupled with the fact that teachers are often unaware of aspects of their own knowledge about teaching, makes sharing that knowledge difficult (Little 1990).
Unlike the typical sharing behaviors described above, Jennifer and Rebecca each shared knowledge with others willingly even in instances where it did not directly benefit their practice. They were able to explicitly describe the what’s, how’s, and why’s of the teaching knowledge that they shared. They viewed their knowledge as valuable to others outside of their classroom environments and perceived their colleagues’ knowledge to be a beneficial resource to their own practice.

Dispositions about Teaching through the Integration of Action Research

The difficulty in observing instances of internal reflection may have hindered the observation of several other action research processes in Jennifer’s practice. Observations of the act of making links between reflection and actions in practice were necessary in order to identify characteristics in practice such as taking risks, openness to critique, and empowerment. The lack of written reflection made it difficult to observe instances of these characteristics in Jennifer’s practice. With the exception of instances in which Jennifer engaged in oral reflection, I had no tangible way of observing links she made between reflection and action in practice because I could not observe the reflection itself. Therefore, information regarding these characteristics was obtained through her response to interview questions, and inferences that I made during the observational period. These factors likely influenced the number of characteristics (risk taking, openness to critique, viewing learning about teaching as an ongoing process, and empowerment) observed in Jennifer’s practice.

Through her report and supported by observation, it was clear that Jennifer viewed learning about teaching as an ongoing process. She actively sought out materials and attended educational courses and workshops that further developed her knowledge about
teaching. Jennifer continued to question her instructional decisions throughout the observational period as evidenced by her self-report during the interview sessions and observations of her practice which were supplemented by our discussions between lessons. Jennifer sought ways to invoke change in her school by volunteering to participate on the school improvement team and serving as the chair person for the fifth grade. She sought ways to increase opportunities for students to get involved in school change through her collaboration with the school’s student government and worked to ensure that students were able participate in opportunities for learning, such as field trips, that extended beyond the classroom curriculum.

During her interviews and through written reflection, Rebecca reported that she took risks in practice regularly. I observed actions in her practice that were linked to the reflective entries in her daybook which supported her claim that she took risks in practice. Similarly, Rebecca demonstrated openness to critique through her interview responses and this was supported by observations I made of her reflective notes which were then linked to her actions in practice. Rebecca’s routine use of a daybook likely influenced the number of instances that these characteristics (taking risks, openness to critique, view learning about teaching as an ongoing process, and empowerment) were observed in the data.

Jennifer and Rebecca’s willingness to take risks in their practice, embrace critique, and serve as advocates for change in their schools was atypical teacher behavior (Cochran-Smith & Lytle, 1993; Cohen, 1995; Little, 1990). The freedom to work in an environment that enables one to employ her personal preferences in practice without being critiqued is compelling to most teachers. Such freedom is challenged when
teachers open their practice to critique (Little, 1990). Openness in practice requires “greater contact and visibility, greater awareness of one another’s beliefs and practices, and greater reliance on verifiable information as a basis for preferred action” (Little, 1990, p. 521). Tensions arise in practice when teachers are confronted with perspectives and practices that are different from their own (Cochran-Smith & Lytle, 1993; Cohen, 1995; Little, 1990). Teachers typically tend to affiliate with those who are like-minded in their teaching practices. This frequently leads to minimal scrutiny of common assumptions about practice (Little, 1990).

Teachers are typically focused on the “immediacies of the classroom” and are detached from alternative practices and theoretical notions about teaching (Little, 1990, p. 526). Teachers who seek to change their practice face “a dual risk: the loss of familiar, more or less workable if also troublesome, versions of themselves; and the possibility that they will fail to become people that they wish to be” (Cohen, 1995, p. 26). They often reject practice that is unlike their own and rely on personal experiences to justify their actions. In doing so, their conceptions of abstract notions about teaching are then confined to their own experiences (Little, 1990). Additionally, even if teachers are willing to take risks in their practice by considering alternative methodologies, they typically have limited energy and opportunities to undertake them, particularly if they are demanding (Cohen, 1995). Furthermore, teachers’ successes are often reliant on students’ achievement. With the pressure to ensure that students are achieving, it is safer to use something that is known, and moderately effective, than to attempt something unknown, that may or may not be successful (Cohen, 1995). These factors often result in more conservativeness and less risk taking in practice (Cohen, 1995).
Jennifer and Rebecca’s willingness to *take risks in practice*, effectuation of change in their schools, and *openness to critique* was divergent from the typical behavior of teachers. Little (1990) suggests that teacher’s willingness to act and the influence that those actions have are rooted in their “evolving identity as teachers” (p. 522). It was evident that Jennifer and Rebecca’s identity as teachers was routinely evolving. This was apparent when they questioned their beliefs about teaching and routinely sought to further their understandings about teaching and learning.

*The Nature of Observing Action Research Processes*

Thus far I have considered factors that may have influenced the manner in which processes were employed in practice. In addition it is important to consider how the nature of the processes themselves may have influenced the frequency with which they were observed during the observational period. An interpretation of Figure 1 provides insights regarding the frequency with which these processes occurred in practice.
An analysis of the data depicted in Figure 1 reveals trends in the number of occurrences of each code in practice. As explained in Chapter 4, including the number of observed occurrences for each action research process and disposition was critical to this study. This information served as an indication of whether or not each of the processes and dispositions occurred routinely in Jennifer and Rebecca’s practice. Additionally, reviewing the number of occurrences illustrated which of these processes were more evident in practice than others. For example, Identifying and Gathering Data was observed far more frequently than Empowerment. A possible explanation for more frequent observations of Identifying and Gathering Data in practice is that it was more
tangible: it occurred in brief, concrete, observable units. An example of a brief, concrete, observable unit included Rebecca’s collection of students’ daily time cards, which were considered representative of one instance of Identifying and Gathering Data. Time cards were collected on a daily basis during the observational period. The brief, concrete, observable nature of this code made it discernibly different from codes of dispositions such as Empowerment which were more abstract and representative of a collective set of behaviors that accumulated over time. Rebecca’s development of the writing lab was considered an instance of Empowerment. The writing lab was developed as a result of a culmination of a series of behaviors, most of which occurred before the observational period and over a long period of time, yet it represented only one observed instance of Empowerment. Such distinctions as the one described above can be made across other coded categories. An interpretation of the frequency of observed instances regarding each coded category listed in Figure 1 revealed which of the categories were likely to be concrete or abstract in nature. Specifically, coded categories with instances that were brief, concrete, and observable units included: Reflection (in instances when reflection was written or oral), Consulting Other Sources, Identifying and Gathering Data, Reviewing and Interpreting Data, Sharing Knowledge with Others, and Application of new Knowledge in Practice. Categories that were observed to be more abstract in nature included the dispositions associated with the employment of action research: Flexibility in Practice, Empowerment, Taking Risks in Practice, Openness to Critique, and Views Learning about Teaching as Ongoing.

The nature of each component may have influenced how action research processes manifested and persisted in practice. There were other factors that may have
contributed to my observing instances of some processes more frequently than others in Jennifer and Rebecca’s practice beyond the circumstances, teacher’s inclination to do so, or the nature of the processes themselves. Dispositions such as **empowerment, flexibility in practice, taking risk in practice, and viewing learning about teaching as an ongoing process** are difficult to explicitly teach someone. The ambiguity of these dispositions makes it difficult to obtain a thorough sense of their connotations, particularly without opportunities to build and develop understandings of these dispositions over time and in authentic contexts. Additionally, drawing on my experience as an action research instructor I acknowledge that my students were constantly reminded of the value of incorporating some of the more common action research processes, such as **reflection**, in practice during my action research course and throughout their teacher education program. This may explain why these common action research processes were observed to occur more frequently than the dispositions that often accompany these processes in Jennifer and Rebecca’s practice. Furthermore, the fact that teachers are not typically risk takers, open to critique, or empowered in their practice (Little, 1990; Cohen, 1995) may serve as an additional explanation regarding why these characteristics were observed less frequently in Jennifer and Rebecca’s practice.

**Conclusions**

Jennifer and Rebecca demonstrated the use of action research processes in their practice. They moved beyond utilizing these processes as a research methodology targeting one specific practice-related area, to implement a broader application of these processes with the self-defined goal of becoming more effective in their teaching practice. Employment of action research processes into aspects of everyday practice
results in teachers who: engage in reflection, question their instructional methodology, take risks in practice, are open to critique, view learning about teaching as ongoing, and routinely seek ways to improve their practice to more effectively meet the learning needs of their students by consulting other sources and using data to inform their practice. They view themselves as change agents and actively advocate for and affect change in their schools. Teachers who have the characteristics described above are likely to be more effective in meeting the learning needs of their students (Auger & Wildman, 2000). As previously discussed, teachers do not typically demonstrate these characteristics in practice (Cochran-Smith & Lytle, 1993; Cohen, 1995; Little, 1990), however these characteristics are reflective of those described in the literature on effective teachers (Brophy & Good, 1986; Cruickshank & Haefele, 2001; Harris, 1998; Porter & Brophy, 1988).

Why Consider Action Research as a Framework for Effective teaching?

The extant literature on effective teaching describes effective teachers as those who are ideal, analytic, effective, dutiful, competent, expert, reflective, satisfying, diversity-responsive, and respected. While many of these categories are confined to specific grade level, student characteristics, contexts, and teacher objectives, they are also somewhat vague and provide minimal insight regarding the characteristics of an effective teacher. For example effective teachers are reflective and dutiful. Cruickshank and Haefel (2001) describe reflective teachers as those who “examine the art and science of teaching to become more thoughtful practitioners” (p. 29). What does it mean to examine? What is a thoughtful practitioner? Dutiful teachers are “those who perform assigned teaching duties well” (Cruickshank & Haefel, 2001, p. 29). What are assigned
teaching duties, and what does it mean to do them well? These descriptions, and others provided by Cruickshank and Haefel (2001) in their review of the literature on effective teaching discussed in Chapter 2, do too little to guide our understanding of what it means or how to be an effective teacher.

Because of the various limitations described above we are provided with nothing more than an ambiguous set of recommendations in the effective teaching literature to select and utilize teaching behaviors that are appropriate to specific contexts, grade levels, and teacher objectives in order to provide effective instruction (Brophy & Good, 1986). This is problematic due to the fact that teachers shift between content areas, work with a wide variety of students, and have multiple teaching aims as they teach throughout the school day, over the course of a school year, and throughout their teaching careers. Also it is difficult to predict what grade level a teacher will teach when they enter the classroom, or be certain that they will remain teaching the same grade level throughout their teaching career. Therefore as we prepare teachers to enter classroom environments we need to provide them with skills to be effective in a variety of contexts, with a variety of students, and to address a variety of goals. To do this we are in need of a more global set of dispositions about teaching and teaching behaviors that transcend these specific boundaries and equip teachers with a concrete framework for effective teaching. I suggest action research as an alternative framework for effective teaching. While the current frameworks for effective teaching described in the literature are somewhat reductive, action research is systematic and intentional, yet its processes are broader in scope and more in depth than the current frameworks for effective teaching.
**Embedding Action Research Processes in Practice as a Framework for Effective Teaching**

Embedding action research in practice in a systematic and connected manner over time could be considered a tangible way to conceptualize effective teaching. Considering effective teaching in this way allows one to move from conceptual, yet vague, notions about effective teaching to having a concrete system for integrating effective teaching into practice. This work then suggests that teachers who embed action research processes systematically and connectedly in their everyday practice, throughout the school day and also over time are likely to be more effective teachers.

Cochran-Smith and Lytle (1993) suggest that, “to bring about instructional reform, teachers’ potential to be thoughtful and deliberate architects of teaching and learning in their own classroom must be tapped and supported” (p. 101). To further support teachers in systematically and connectedly embedding action research broadly into their teaching practice, it is necessary to re-conceptualize how action research is introduced and supported in teacher education programs.

**Implications for Teacher Education**

Shulman (1987) introduces the following goal of teacher education as originally presented by Fenstermacher (1978, 1986):

The goal of teacher education, he argues, is not to indoctrinate or train teachers to behave in prescribed ways, but to educate teachers to reason soundly about their teaching as well as to perform skillfully. Sound reasoning requires both a process of thinking about what they are doing and an adequate base of facts, principles, and experiences from which to reason. Teachers must learn to use their knowledge base to provide the grounds for choices and actions. Therefore, teacher education must work with the beliefs that guide teacher actions, with the principles and evidence that underlie the choices teachers make (p. 13)
Possible implications for teacher education programs resulting from this study and in support of the above excerpt include the need for a re-conceptualization of action research as a method for teaching rather than solely as a methodological research approach and a call for teacher education programs to develop courses and support systems that advocate the notion of action research as a teaching stance.

A re-conceptualization of action research as a method for teaching will promote the development of teachers who go beyond carrying out the transference of knowledge to their students to become reflective practitioners. Practitioners who continue to seek new knowledge, question their beliefs about teaching, are responsive to critique, are willing to take risks in their practice, and revise their underlying notions about teaching will more effectively meet the needs of their students and evolve as a teacher. Teacher characteristics such as these transcend content specific knowledge about teaching. Teachers who exhibit these characteristics have the ability to learn about their students, convey content in a variety of contexts, and routinely develop and pursue new knowledge about teaching.

Recommendations resulting from this research for modifying teacher education programs to incorporate and support the notion of action research as a teaching stance include: situating action research processes in broader contexts as they are introduced to teachers, modeling how to employ action research processes in everyday practice as a routine aspect of pedagogy, working to develop action research dispositions in teachers throughout teacher education programs and beyond, and incorporating support and networking opportunities that extend beyond enrollment in action research courses.
An effective way to situate action research processes in broader contexts is to embed them in methods and content area courses in teacher education programs. These processes should be presented as a teaching methodology that is relevant across content areas. Teachers should be exposed to the various ways in which action research processes can be applied in practice and given multiple opportunities to employ them in a variety of contexts throughout their teacher education program.

Teacher educators should exercise routine modeling of how to employ action research processes in everyday practice as a regular aspect of pedagogy over the course of the teacher education program. Modeling should occur in authentic contexts such as those where action processes will be used in practice (e.g. classrooms, professional development workshops, lunch rooms, hallways, and through email). This may require restructuring of courses to include routine participation in authentic contexts by teachers and teacher educators. The findings from this study underscore the fact that there are some processes and dispositions that are more difficult to teach (e.g., openness to critique, flexibility in practice, and taking risks). Such findings suggests the need to prepare teachers better for such things as risk taking, something we really fail to do in teacher education.

Incorporating ongoing support and networking opportunities that extend beyond enrollment in action research courses will provide teachers with the relationships and resources necessary to continue employing these processes in practice after graduation from their teacher education program. Ongoing support should include access to guidance, information, and encouragement with regard to the integration of action research processes in practice. While it would be difficult for universities to provide
resources for every graduate to receive face-to-face support for their entire teaching career there are alternative options to address the charge for such support. Alternative suggestions for how to achieve this level of support include: development of on-line discussion boards facilitated by teacher educators, development of websites dedicated to providing resources for teachers (links to journals, opportunities for workshops and professional development, sources for finding funding, contact information local resources outside of school) and collaborating with school administrators on how to promote teachers’ integration of these processes in practice (e.g., creating communities for sharing knowledge within schools, providing a safe environment for reflection and taking risks in practice, and opening classrooms, ultimately practicing critique as a routine aspect of practice).

Implications for Teachers

Embedding Action Research Processes in Practice

The notion of integrating action research in practice has often been intimidating to teachers (Cochran-Smith & Lytle, 1993). While teaching is often considered an autonomous profession, engaging in action research requires collaboration (Cochran-Smith & Lytle, 1993). Isolation in teaching often secludes teachers from one another and perpetuates teachers’ apprehension of the potential exposure and diminished autonomy that is associated with engaging in collaboration (Cochran-Smith & Lytle, 1993). Teachers new to action research typically view it as a formal research methodology that requires a significant amount of time, time that detracts from effectively meeting their students’ learning needs. Both teachers in this study provide
evidence to the contrary; action research processes were systematically and efficiently embedded in their practice.

One way for teachers to embed action research in a systematic and connected manner is to develop methodological systems to carry out action research processes in their practice. Jennifer and Rebecca had to negotiate how to develop systems for integrating action research processes and embed those systems in their practice. They had to find time to employ the individual processes of action research systematically and, in Rebecca’s case, in a connected manner while remaining focused on meeting the learning needs of their students. Examples of such systems are those employed in Rebecca’s classroom: daybooks, cumulative notebooks, cumulative folders, and daily time cards. Typically, there is little time for teachers to engage in reflection, discussion, and sharing with their colleagues (Cochran-Smith & Lytle, 1993, p. 86). The flexibility in teachers’ schedules is often limited and leaves little time for them to develop new lessons, or reflect on older ones. This often impedes opportunities for modifying or improving their practices (Cohen, 1995).

A second recommendation is for teachers to develop an open line of communication with their colleagues, inviting and providing constructive critique. Inviting an exchange of critiques between colleagues on a routine basis is likely to encourage a willingness to recognize areas in need of improvement in one’s practice, a common perspective that learning about teaching is an ongoing process, a safe environment to take risks in practice, and openness to modifying one’s practice.

A third recommendation is for teachers to develop communities of practice within and across schools. When Jennifer and Rebecca shared knowledge with others and went
beyond what typical teachers do (Cochran-Smith & Lytle, 1993; Cohen, 1995; Little, 1990) in their practice, they were often ridiculed by other faculty in their school. Perhaps this ridicule occurred in part because of the widely held misconception in the field of teaching that good teachers rarely encounter questions about their practices that they cannot answer independently (Cochran-Smith & Lytle, 1993). Little (1990) echoes this sentiment and further suggests that “the most common configurations of teacher-to-teacher interaction may do more to bolster isolation than to diminish it” (p. 511).

Furthermore, “when teachers are out of their classrooms or talking to other teachers, they are often perceived by administrators, parents, and sometimes even by teachers themselves as not working” (Cochran-Smith & Lytle, 1993, p. 86). Communities of practice may enable teachers to be “willing to confront their own histories, hear the dissonance within their own profession, and begin to construct working alliances with colleagues, students, parents, and communities” (Cochran-Smith & Lytle, 1993, p. 84).

As teachers collaborate they develop deeper understandings about teaching, “their conversations are recursive and reflect a fluid, changing view of knowledge” (Cochran-Smith & Lytle, 1993, p. 96). These communities should be used as places for critical reflection and should not be confined by needs for consensus. Members in these communities of practice should reflect on the dispositions inherent in the various discourses that they are committed to (such as those of school systems, unions, and universities) and explore conflicting philosophies (Cochran-Smith & Lytle, 1993; Harris, 1989).

A fourth recommendation that should be embedded in the development of communities of practice described above is to develop a network of resources among
colleagues and set up systems of exchange for practice related knowledge. As systems are developed resources will be readily available, preserving more time to focus on students. With the continued use of these systems in practice, employment of action research processes becomes a teaching stance which fosters the development of knowledge about teaching and facilitates student learning.

Areas for Future Research

Further investigation is necessary regarding ways in which teacher education programs can foster the development of teachers’ use of action research processes in practice. Future studies in this area should examine information garnered from extensive observation of teachers’ use of action research processes in practice in addition to considering conceptual aspects of action research necessary for successful implementation into practice. Another area for future research includes investigating ways in which teachers develop systems for implementation of action research processes and related skills into their practice. There is a need for the investigation of ways in which employing action research systematically and connectedly over time impacts student achievement. Further investigation is necessary regarding how a teacher’s willingness to employ these processes in practice influences their relationships with colleagues. Also necessary is the identification of methods for developing networking opportunities and ways for schools and colleagues to support teachers as they employ action research processes in practice. To broaden understandings of action research and its implementation beyond that which is discussed in the extant action research literature direct observation of teacher’s use of action research processes in authentic contexts is a necessary component of future research in this area.
Concluding Remarks

Observations of the integration of action research processes in practice from this study are in support of Falk’s (2004) notion that the skills acquired from using action research in practice are very similar to those used to examine individual student learning: observation, documentation, analysis, reflection, and application to practice. “Teachers who know how to do this well are effective at helping their children. Their problem solving orientation prepares them to foster authentic learning, no matter the context in which they teach” (Falk, 2004, p. 82). These findings are also in line with the literature on effective teaching (Cruickshank & Haefele, 2001; Good & Brophy, 1986; Harris, 1998; Porter & Brophy, 1988). Those who incorporate action research practices into their everyday practice in a systematic and connected manner over time, then, are likely to be more effective in their teaching. Shulman (1987) explains that “discovering, explicating, and codifying general teaching principles simplify the otherwise outrageously complex activity of teaching” (p.11). He cautions that, “the great danger occurs, however, when a general teaching principle is distorted into prescription, when maxim becomes mandate” (Shulman, 1987, p. 11). This study partially addresses Shulman’s contention as it begins to move from the abstractions regarding effective teaching described in the literature to consider an explicit framework for effective teaching, though a framework that takes into account such things as a teacher’s context.

Teachers who adopt action research as a teaching stance are likely to be focused on attending to the learning needs of individual students and building on their notions about teaching. Both teachers in this study demonstrated that integrating this stance in practice serves as a potential response to Feinman-Nemser’s (2008) charge for
identifying areas that foster the development of “adaptive expertise in teaching” (p. 703). More specifically, as teachers employ action research in practice as a teaching stance they continue to question their practice, seek out new information to re-envision their understandings about teaching, are reflective as they systematically evaluate their practice, welcome and thoughtfully consider critique from others and themselves, and dispense the knowledge garnered from this process to others. In doing so teachers reclaim (or claim for the first time) their roles as knowledge seekers and creators of knowledge about teaching and are likely more effective in their teaching practice.
APPENDIX A

Initial Interview Questions

1. Describe an effective teacher. Why are these characteristics of an effective teacher?

2. When you think back on the action research course what do you think are the important aspects of action research?

3. How do you integrate each of these aspects into your practice? (I will refer back to the participants #2 response and ask them to elaborate on each of the aspects of action research that they have listed.)

Final Interview Questions

Reflection:

1. In what ways do you use reflection in practice? Provide examples from your practice.

2. Why do you use reflection in practice?

3. Describe how reflection influences your practice?

Investigating Practice:

4. How do you identify areas in need of further investigation in your practice?

5. Describe the decision making process you undertake as you prioritize these areas?

6. How do you decide what steps to take as you begin an investigation? Provide a few examples of this from your own practice.
Consulting Other Sources:

7. What do you do when you need additional information regarding a practice related issue?

8. How do you determine what sources to utilize when in need of additional information regarding a specific practice related issue?

9. What do you do with this information?

10. What types of sources do you consult?

11. What activities do you participate in outside of the classroom that include consulting other sources (ex. Professional development sessions, discussion boards, book clubs)?

Using Data:

(Identifying and Gathering Data)

12. How do you use data in practice?

13. Describe the decision making process regarding what data should be collected when investigating a practice related issue. Provide examples from your own practice.


15. Describe how data can inform your investigation.

(Reviewing and Interpreting Data)

16. Describe what you do with the data once you have collected it?

17. How do you interpret data?

18. How do you think about data as you analyze it?
19. How do you synthesize your analysis?

Sharing of Knowledge with Others:

20. How do you share knowledge in practice?
21. With whom do you share knowledge?
22. What knowledge do you share?
23. How do you decide what knowledge to share?
24. Why do you share knowledge in practice?

Application of Knowledge in Practice

25. How do you use this knowledge in practice? Provide examples from your practice.
APPENDIX B

Description of the Action Research Course

A description of the action research course along with in-depth descriptions of each of the action research processes as they were presented in the course provides important background information regarding teachers’ knowledge of and experience with the action research processes prior to classroom observations. A detailed description of the action research course and definitions and descriptions of each of the processes and how each was utilized by the teachers enrolled in the course is provided in the subsequent sections.

The following course description was taken directly from the syllabus of the action research course:

This course explores the meaning of research and the potential roles of teachers in conducting research. Teachers formulate possible individual research projects and carry them out during the semester. This course is designed to help teachers investigate—formally and systematically—their questions, interests, concerns and problems regarding their teaching, students, curriculum, and/or other issues regarding their practice. Throughout the semester we will explore the following areas: What is action research? Why do it? How is it done? During this course teachers will develop a research question(s) from their own practice, conduct a study to address the question(s), and prepare a final research report summarizing the research question(s), rationale, methods, findings and the study’s implications (Davidson, Spring 2006).

Selected course objectives relevant to this study are listed below:
2. Appreciate the value of teacher-research for understanding and improving their practice
3. Develop a teacher-researcher stance
4. Arrive at their own working definition of teacher-research—what is it, why is it done, and how it is done
5. Understand, and value, the process of planning and conducting action research
6. Engage in deliberate, systematic inquiry and reflection on their practice;
7. Develop a research study by finding a question, planning strategies for collecting and analyzing their data, and interpreting and summarizing their findings in a final research report.
8. Collaborate with fellow teacher-researchers throughout all phases of the research process
9. Understand the role of theory and research in informing literacy instructional practice (Davidson, Spring 2006).  

While the course objectives appear to focus specifically on literacy instruction the action research processes were introduced independent of any specific content area and were addressed throughout the course as processes that could be used across content areas. This was done by explaining each of the processes and modeling examples of how each could be used in various contexts. The text for the class (Hubbard & Power, 2003) provided specific examples of each of the processes and did not focus solely on literacy. An example of this more general application of the action research processes can be seen in the chapter on developing research questions. This chapter discussed how to develop research questions that are open ended, and did so by giving examples from several content areas. Examples included research questions focusing on: Science, Literacy, Spanish, Art, and Social Studies. The variety of examples provided in the text conveyed a more global application of the action research processes. The course text was an action research text not a literacy action research text.
I discuss how each objective may potentially improve practice in the following paragraphs.

Objective 1. Appreciate the value of teacher-research for understanding and improving their practice

Appreciating the value of teacher-research for understanding and improving practice may encourage teachers to question and learn from their practice routinely. As teachers begin to recognize teacher-research as a way of improving practice, they may see the value in collaborative teacher-research as a means to better understanding their own practices. This may encourage them to collaborate with others to develop new understandings, consider other perspectives, and benefit from others' experiences to work towards understanding and improving their practice. Some teachers may begin to view the identification of areas that need improvement in their own practice as positive and developmentally beneficial rather than as an indication of incompetency or ignorance (Zambo & Zambo 2006). Through collaboration, teachers may become open to engaging in a dialogue and learn to welcome critique of their pedagogy (Zambo & Zambo, 2006). Teachers may become more willing to open their classrooms and share information, including their own failures, as they begin to see these actions as gateways to better understanding practice.

Objective 2. Develop a teacher-researcher stance

Building on the previous objective, developing a teacher-researcher stance enables teachers to view themselves as seekers of new knowledge about teaching. A teacher-researcher stance is a way of thinking and acting as a teacher. It includes expanding one’s view of a teacher’s role to include seeking new knowledge and
constantly questioning and developing understandings about teaching and learning to strive to be a more effective teacher. New knowledge about teaching can be developed through a teacher’s inquiry of her own practice, through collaborative inquiry with others in her community, and through an ongoing review of relevant literature related to her practice. As teachers develop teacher-researcher stances they may begin to make modifications to their practices based on their newly obtained understandings about teaching and how those understandings fit with their current knowledge about teaching. Engaging in action research encourages teachers to become more flexible and open minded about their practices (Oja & Smulyan 1989). As teachers begin to inquire routinely into their own practices, they may begin to feel more comfortable identifying areas that need improvement and develop an openness to making changes in their practices. This may promote a revised perspective of the classroom as a learning environment for teachers as well as their students. As teachers demonstrate their effectiveness, they begin to value their own judgment and recognize their potential to become change agents (Zambo & Zambo, 2006).

Objective 3. Arrive at their own working definition of action research—what is it, why is it done, and how it is done

As teachers develop their own definitions of teacher-research and its purpose they may be able to envision how the research process can fit within their classrooms. With their own understandings of how teacher-research relates to their practices teachers develop perceptions of themselves as knowledge seekers and the confidence that they are equipped with effective methods for obtaining new knowledge. Engaging in action research can encourage teachers to reevaluate their teaching and refer to new knowledge
gained from their own systematic inquiry to inform their practices (Merino & Holmes, 2006).

Objective 4. Understand, and value, the process of planning and conducting action research

Through understanding and valuing the process of planning and conducting action research teachers may become more inclined to pursue relevant action research questions in their own practices. As teachers begin to define what it means to systematically plan, conduct, and value research in their classroom environments they may: engage in action research in a more systematic fashion, become routinely reflective practitioners, begin to enjoy and identify ongoing inquiry as an important aspect of effective teaching, and view teaching as an active process. Shulman (1987) describes expert teachers as those who “purposeful in their actions, set goals, and supply evidence of their effectiveness.” (p. …)

Objective 5. Engage in deliberate, systematic inquiry and reflection on their practice

Engaging in deliberate, systematic inquiry and reflection on practice can help teachers develop new understandings about their own teaching, recognize personal biases, identify their strengths, and identify areas in their practice where there is need for improvement. Engaging in deliberate reflection allows a teacher to evaluate her own practice in a metacognitive manner. As reflections are reviewed teachers can begin to see patterns in their ways of thinking and acting, student responses to instruction, and student learning that may have gone unnoticed if they had not engaged in reflection routinely. According to Kraft (2002), “It is only through conscious processing and bringing into question our beliefs (i.e. reflection) that we are able to transform our practices emerging from these beliefs” (p. 179). Routinely evaluating reflections can assist teachers in
pinpointing areas in their practices that require modification. Making modifications based on routine reflections will allow teachers to meet the needs of their students more effectively.

**Objective 6. Develop a research study by finding a question, planning strategies for collecting and analyzing their data, and interpreting and summarizing their findings in a final research report**

Conducting a teacher-research study enables teachers to understand how to apply the action research processes in an authentic context (conducting research to address a question identified in their own practices.) As teachers engage in the research process, they may begin to make connections between the process itself and how it informs their practices and helps them become more effective teachers. Teachers become more confident, capable, and empowered as they actively strive to become more effective teachers when they are equipped with methodological tools that allow for systematic inquiry into their own practice.

**Objective 7. Collaborate with fellow teacher-researchers throughout all phases of the research process**

Collaborating with fellow teacher-researchers through all phases of the research process allows teachers to become more comfortable with others viewing their own practices (Capobianco, Lincoln, Canuel-Browne, & Trimarchi, 2006; Kraft, 2002). Teachers may open their classrooms to others as a result of collaboration during the research process. In an open-classroom environment teachers may feel safe letting others observe their practices and are receptive to other’s critiques and suggestions. Through collaboration teachers are able to challenge their own belief systems and make
connections between their beliefs and how they approach their practices (Kraft). Collaboration often results in new understandings about teaching as the participants build on each other’s experiences and understandings as the research process unfolds. Learning occurs as teachers discuss their own and other’s experiences, uncover their own biases and question them, and reevaluate and modify their beliefs (Kraft). The understandings developed through collaboration might not be obtained if one engaged in the research process in isolation. Through collaboration, teachers may learn to consider alternative perspectives and are encouraged to evaluate and support their own perspectives further in order to communicate their perspectives to others.

**Objective 8. Understanding the role of theory and research in informing literacy instruction**

Theory or research (or both) can serve as a resource and springboard for ideas for teachers as they engage in an ongoing quest for effective teaching methodology. As previously stated, a teacher’s main goal is to meet the needs of each of her students. Meeting students’ needs is the impetus for an ongoing inquiry into effective teaching. As new questions develop related to their practices, teachers can refer to the existing literature to help them hone in on effective methodologies (both instructional methodologies and research methodologies). Utilizing existing theory and research can provide a general framework to start from when working with students (in particular areas). This can save a teacher’s precious time that can then be focused on her students. Teachers can use research as a foundation of support for their own work. Support from the literature may encourage a sense of empowerment as teachers find literature that
promotes similar findings to their own. Teachers may begin to view themselves as knowledge builders similar to the authors they reference.

The action research course was not taught in a traditional face-to-face learning environment. Information related to how teachers participated in the course will clarify how teachers were introduced to action research and how they interacted with each other and the course instructor (the author of this proposal) while enrolled in the action research course. In the following paragraphs I discuss the general format of the action research course.

The Action Research course was taught in an online learning environment. Classes were taught using Macromedia Breeze (an internet-deliver web application with the ability for real-time communication.) There were no face-to-face class meetings. Teachers met weekly in an online classroom and participated in synchronous discussions for two hours and also participated asynchronously for one hour weekly. Synchronous discussions included real-time whole-group and small-group class discussions about action research. Everyone participated at the same time and discussion was fluid—similar to a chat room environment. As the instructor, I communicated with the students during the discussions using audio communication (a microphone) and by typing in a chat box. I used the microphone when my comments were relevant to the entire class and I typed my comments when they were relevant to a small-group or individual students. Students in the class participated by typing their responses. Whole-group and small-group discussions consisted of students engaging in a dialogue around a series of discussion prompts or questions. Discussion questions included:
(a) What are some themes and categories of teacher-research methodology mentioned in the Baumann, Duffy (2001) article? How may this be useful to you as you begin to develop your research questions and plan your studies?,
(b) What does it mean to reflect on your own reflections? Why is this important?, and (c) How can we build research communities? Have you done or observed anything in your schools aiming to build a research community?

If so what?

The prompts each week corresponded to the topics addressed in the course readings and the stage of the research process with which the students were working. Although the prompts served as guides for the discussions, the discussions were directed by the entire class, not just the instructor, and often moved beyond the specific prompts.

Typical synchronous class meetings consisted of discussions about the course reading material, how it related to classroom practice, and ongoing discussions about course projects. Teachers were able to use examples from their own teaching experience and read about other’s experiences as they began making connections between theory and practice. Weekly online synchronous discussions were recorded and posted in Blackboard (a web-based course management system) so that teachers could review the whole-class and small-group discussions. Teachers reported that the recordings were particularly helpful when there were small-group discussions. The recordings enabled each person to review discussions of groups she was not participating in, which provided additional opportunities for making connections to course content. As the semester progressed teachers were divided into small groups according to their research topics and a majority of the synchronous class time was designated for small-group discussion
around the research process itself and issues related to research interests. I participated in each group discussion.

Asynchronous class time consisted of teachers responding to weekly discussion questions and classmates’ comments. In addition to responding to weekly discussion questions, teachers used this environment to pose questions that were not addressed during the class discussion the previous week, engage in reflection, and engage in more lengthy discussions about particular topics.

**Definitions and Descriptions of Processes Taught in the Action Research Course**

During the action research course the following action research processes were introduced and modeled for the teachers enrolled in the course: Reflection; Developing Open-ended Research Questions; Reviewing the Literature; Data Collection; Data Analysis; and Sharing of Knowledge with Others. The following paragraphs describe first how each of these processes was defined and then how teachers engaged in the process during the course.

**Reflection**

Reflection was defined in the course as a conscious thoughtful inquiry into one’s own practice. This includes deliberate discussion, documentation, observation, and questioning of one’s own practice. Reflection can take place as instruction is taking place or afterwards (Shön, 1996). Reflection during instructional practice allows for an immediate evaluation and critique of practices that have become intuitive and are often left unquestioned. Reflection after instruction takes place is a retrospective process that occurs over time and encourages evaluative thinking related to instructional decisions and student learning. This type of reflection also enables a metacognitive perspective on
one’s own instructional practices and understandings of teaching. Reflection can be oral or written. One advantage of written reflection is that they enable review of previous reflections and identification of common trends regarding student learning, ways of thinking about teaching, and instructional approaches.

Teachers composed daily reflections related to their classroom instructional practices in a journal. Initially, teachers were directed to be general and were instructed not to be concerned with focusing on a particular topic as they wrote their reflections. At the end of each week throughout the semester teachers wrote a synthesis of their daily reflections, this allowed them to reflect on their actions. Engaging in a weekly synthesis of their reflections early on in the course enabled them to begin to identify themes across journal entries. After several weeks teachers identified areas of interest from the themes that they had identified and began developing their research questions. Once questions were developed each teacher focused her reflections around the topic of her research question. Teachers emailed their weekly reflection syntheses to me and received guidance as questions were formulated and were provided with feedback related to any questions that were posed within the reflections themselves.

*Developing Open-Ended Research Questions*

Developing Open-Ended Research Questions was defined as formulating questions phrased in a manner that allows for rich description and an in depth investigation related to the topic of study. Open ended questions included those beginning with how, what, and why. These questions are often developed as a result of an individual’s reflection on her own practices and school-wide practices.
Teachers developed research questions based on observations of their own practice and as a result of engaging in reflection. Through reflecting upon their practices and synthesizing their reflections, teachers were able to identify major themes relevant to their own practices that warranted further study. During the first several weeks of the course teachers worked together in small groups to refine open-ended questions. Questions were refined by narrowing the focus, clarifying the wording, and revising the question format to provoke an in depth discussion. For example, one question changed from, “Does teaching in small groups increase student achievement,” to “how does teaching students in small heterogeneous groups influence student achievement in third grade mathematics?”

**Reviewing the Literature**

Reviewing the literature was defined as searching for, identifying, reading, critiquing, synthesizing, and integrating literature related to the topic of study. This included literature relevant to any of the following: research area, methodology, theoretical frameworks, and analysis.

Teachers reviewed relevant literature to help guide their understandings of the subject matter as well as methodological and analytical procedures related to their research focus. As teachers narrowed their research foci they searched various databases for peer reviewed journal articles and books related to their research topics. In order to conduct their searches they executed keyword queries of an online database using key words representative of their subject matter and reviewed the documents identified by the search. They previewed the abstracts of these documents to determine if they were relevant to their studies, and then proceeded to retrieve them if they met their criteria. In
addition to utilizing the library database teachers used the reference sections of sources they had already collected to obtain relevant references. Once teachers conducted their initial searches they identified and read through the five most relevant sources they located during their searches. They referred to the sources to provide support for their understandings of the topics they were studying. This included: (a) informing their understandings of what had previously been studied related to their subject focus, (b) how it was studied, (c) results related to each study, (d) implications for future practice, and (e) how some of these studies fit within the context of what is known about the subject matter. In addition to providing a framework for understanding the subject matter and how to evaluate it, this information often served as a model for teachers on how to conduct their own studies and write up their work. Throughout the course they learned that the literature could be used to gain richer understandings related to the topics under study and that the literature would provide support and suggestions for methodological aspects of their study.

Data Collection

Data Collection was defined as a systematic method of gathering data. There are a wide variety of methods for collecting data, including anecdotal notes, tally sheets, questionnaires, surveys, interviews, reflections, portfolios, photographs, charts, and graphs. Prior to data collection one must identify the type of data she intends to collect. Careful consideration should be given to the relevancy of the data to the intended research question in order keep data collection focused and manageable.

After teachers identified their areas of study and developed research questions, they identified the types of data necessary to address the questions they had selected.
Teachers then identified methods of data collection based on the types of data they needed to address their questions. Data collection methods included: anecdotal notes; student portfolios; tally sheets; categorization tables; questionnaires; student, teacher, and parent short answer surveys; surveys with Likert scales; and student test scores. Teachers developed data collection protocols such as questionnaires, student interest surveys, parent surveys, tally sheets, and rubrics corresponding with the type of data they identified as informative to their research questions. As teachers conducted their studies they utilized the relevant data collection methods to address their research questions. Throughout the data collection process teachers continuously reviewed the data to determine whether they were relevant to (and sufficiently addressed) the research question.

Data Analysis

Data Analysis was defined as organization and evaluation of collected data so that its meaning, relationships, structure, can be better understood. There are several different methods of data analysis including coding, developing categorization tables, organizing and reorganizing data, and using data analysis software. Data analysis should be an ongoing process that begins simultaneously with data collection and continues after data collection is complete.

During and after the data collection process, teachers began to organize and evaluate their data to gain an understanding of themes within the data related to their research questions. Teachers began this process by reviewing the data. They organized and reorganized the data. This process helped them become familiar with the data and begin to identify common themes. Teachers referred to relevant literature for support.
with their data analysis. Teachers consulted the literature for various methods of analysis and developed categorizations of similar data, ways of thinking about data, and models of how to synthesize the findings of an analysis. Each teacher identified themes within her data and also engaged in reflection focusing on the themes and how those themes related to her research question. After repeated analyses of the data, teachers synthesized their findings, developed discussions around the data analysis, and drew implications for practice in light of the findings.

*Sharing of Knowledge with Others*

Sharing of Knowledge with Others was defined as disseminating knowledge gleaned from implementing the action research processes with others. This can be done verbally or in writing; directly (through workshops, conferences, and presentations), and indirectly (through articles, books, and pamphlets.)

Throughout the course teachers met in small groups to discuss the research process and their research topics. Sharing of Knowledge with Others was an ongoing process. At the end of the course teachers presented the rest of the class their research including discussions of their methodology, analysis, findings, and implications. In order to allow sufficient time for their classmates to be prepared with questions on presentation day, presenters distributed a handout to their classmates several days prior to presentations. The handouts included highlighted portions of the methodology, analysis, findings, and implications. At the end of each presentation the researcher participated in a question answer session with her classmates. Sharing of knowledge was also addressed in the final research projects as teachers were instructed to include a discussion of how
they planned to share the knowledge they learned from their research projects and the research process with others in their field.
REFERENCES


