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A FORMATIVE EXPERIMENT INVESTIGATING THE USE OF NONFICTION TEXTS IN WRITING WORKSHOP TO ASSIST FOURTH-GRADE READERS AND WRITERS

Kelly Tracy

Clemson University, ktracy@clemson.edu

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A FORMATIVE EXPERIMENT INVESTIGATING THE USE OF NONFICTION
TEXTS IN WRITING WORKSHOP TO ASSIST FOURTH-GRADE READERS AND
WRITERS

A Dissertation
Presented to
the Graduate School of
Clemson University

In Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy
Curriculum and Instruction

by
Kelly Nelson Tracy
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Accepted by:
Dr. Kathy N. Headley, Committee Chair
Dr. Robert Green
Dr. Rebecca Kaminski
Dr. David Reinking
Dr. Renita Schmidt

ABSTRACT

Using the methodology of a formative experiment (Reinking & Bradley, 2008), this study investigated how writing workshop using expository and informational texts could be implemented in a fourth-grade classroom to improve students' reading and writing abilities and attitudes.

Eighteen students from a fourth-grade class at a rural school in a large district participated in the study. Quantitative and qualitative data were collected prior to and after implementation of the intervention to establish a baseline of performance and to determine progress toward the pedagogical goal. Additionally, qualitative data were collected throughout the intervention. Quantitative data were analyzed using a paired-samples t-test for the following measures: student prompted writing sample, Stieglitz informal reading inventory, and Heathington Intermediate Attitude Scale. Qualitative data were coded for recurring themes derived from the following sources: classroom observation and field notes, teacher reflective journal, student and teacher interviews, classroom artifacts, and informal discussions with teacher. Analyses revealed that the success of the intervention was related mainly to the teacher's awareness of her students, her beliefs about her own self-efficacy, students' shared vocabulary, and students' use of strategies. Unanticipated effects and changes to the educational environment are also discussed.

DEDICATION

This final piece in my doctoral journey is dedicated to my daughter, Madelyn, who had to spend many nights listening to the *APA Style Manual* in lieu of *Brown Bear, Brown Bear*. I love you, Monkey.

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CHAPTER 1

INTRODUCTION

“At its best, writing has helped transform the world. Revolutions have been started by it. Oppression has been toppled by it. And it has enlightened the human condition” (The National Commission on Writing in America’s Schools and Colleges, 2003, p. 10).

The designation of “hot or not” might seem best suited for a fashion magazine; however, since 1996 the International Reading Association (IRA) has surveyed literacy leaders across the world to determine what literacy topics are “hot” and whether these topics deserve their standing. Despite the National Commission on Writing in America’s Schools and Colleges’ (2003) affirmation of the power of writing, it still is not receiving the attention that some feel it deserves, as evidenced by the IRA’s declaration of writing as a “not hot but should be” topic in the field of literacy (Cassidy & Cassidy, 2009). In its 2009 survey, 75% of respondents designated writing as “not hot” with 100% responding that it “should be hot.” Nonfiction texts, on the other hand, received the designation of “hot” from 50% of respondents, but like writing, 100% were in agreement that it “should be hot” (Cassidy & Cassidy, 2009). Unlike a fashion magazine whose purpose for this sort of list is most likely to have people join in the latest trends, IRA states that the purpose of this survey is *not* to have researchers and educators all focus on the “hot” topics; rather, IRA wants to encourage readers to investigate popular topics in more depth and to consider the discrepancies in the “hot” and “should be hot” list so that

they can “be more active advocates for the best literacy practices in their own schools and political arenas” (Cassidy & Cassidy, 2009, p. 9).

Although the impetus for this study was *not* the results of IRA’s survey, the survey does make an important point about the lack of and need for current research on nonfiction texts and writing. This dissertation study combines both of these topics in the context of a fourth-grade writing workshop to learn how utilizing nonfiction texts in a writing workshop might improve students’ reading and writing abilities and attitudes.

To better understand the complexity of a writing workshop focused on nonfiction, I used a formative experiment (Reinking & Bradley, 2008; Reinking & Watkins, 1998; Reinking & Watkins, 2000). Classrooms are complex places where controlling multiple, interactive variables is often impossible (Brown, 1992; Dillon, O’Brien, & Heilman, 2000; Jackson, 1990; Reeves, 2006; Reinking & Watkins, 1998; Reinking & Watkins, 2000; van den Akker, Gravemeijer, McKenney, & Nieveen, 2006) and formative experiments take into account their synergistic nature. They allow the researcher to make and describe justifiable changes to an intervention in order to achieve a valued pedagogical goal; thus, formative experiments are often seen as a better means of bridging the gap between theory and practice (Reinking & Bradley, 2008). Because this research methodology is relatively new and not clearly in the mainstream of education research, there is not total agreement on terminology. Some researchers prefer the term design research (Brown, 1992; Cobb, Confrey, diSessa, Lehrer, & Schauble, 2003; Collins, 1992; van den Akker, et al., 2006) and slight differences do seem to exist between design research and formative experiments. Primarily, those who use the term

design research “tend to see their work more directly as an extension of conventional laboratory work grounded in quantitative methods” (Reinking & Bradley, 2008, p. 15) and intend their studies to develop theories (Cobb, et al, 2003); whereas those who use the term formative experiment tend to be more pragmatic and qualitative in their research, being most interested in informing practitioners (Reinking & Bradley, 2008). Despite the slight differences between design research and formative experiments, they are fundamentally the same in two major ways: they both involve an instructional intervention designed to achieve a valued pedagogical goal in an authentic instructional context and both allow formative modification of the intervention in response to data showing factors which enhance or inhibit the intervention (Reinking & Bradley, 2008). I chose the term formative experiment because my overarching goal was improving instructional practice more so than developing a theory; however, for consistency I occasionally use the terms interchangeably when describing previous research.

Rationale

In their 2003 report, The National Commission on Writing in America’s Schools and Colleges called writing “the neglected r” (p.9). The report is not a condemnation of our schools or teachers, but an appeal for America to rethink the importance of writing and bring it back to the forefront of instruction. The commission hoped that understanding the need for *all* students to be proficient writers would mean that, in an era of high-stakes testing when time is a precious commodity, schools would dedicate the significant amount of time to writing instruction that is necessary for developing

successful writers. The report stated, “The amount of time students spend writing should be at least doubled” (p. 4).

This insistence on students writing every day is important at every level for different reasons. For students in the intermediate grades, writing development begins to focus more on complexity and sophistication (Donovan & Smolkin, 2002; Graham, Schwartz, & MacArthur, 1993) requiring substantial time devoted to writing and its instruction. Along with this shift in writing, a major change in reading occurs. Reading instruction moves from concentrating on learning to read to reading to learn (Chall & Jacobs, 2003). These shifts mean that reading and writing can become increasingly difficult for students; therefore, it is essential to understand effective ways of teaching students literacy skills as they reach the intermediate grades.

One method of effective literacy instruction may be utilizing the relationship between reading and writing. Several studies have ascertained that there is a connection between reading and writing (Fitzgerald & Shanahan, 2000; Langer, 1986; Langer, 1995; Shanahan & Lomax, 1986; Shanahan & Lomax, 1988; Tierney and Shanahan, 1991) and that teaching reading and writing together may improve learning in both areas (Corden, 2007; Glenn, 2007; Parodi, 2007; Tierney, Soter, O’Flahavan, & McGinley, 1989). In her meta-analysis of studies on the reading-writing connection, Stotsky (1984) explained the typical trends across readers and writers. She stated, “... that better writers tend to be better readers (of their own writing as well as of other reading material), that better writers tend to read more than poorer writers, and that better readers tend to produce more syntactically mature writing than poorer readers” (p. 25). Because of the

connection between the development of reading and writing, explicitly connecting these two processes may help students improve in both areas; writing workshop may be one means of making this connection. Writing workshop, a commonly used format of writing instruction that focuses on the writing process and advocates more student choice, provides a structure that can easily incorporate explicit and extensive instruction of literary models (Atwell, 1987; Calkins, 1986; Fletcher & Portalupi, 2001b; Ray, 2001). Additionally, supporters of writing workshop maintain that it motivates students while improving their writing ability (Chakraborty & Stone, 2008; Tompkins, 2002).

Concentrating on nonfiction texts would also benefit students, as most classroom reading instruction focuses heavily on fiction while the majority of reading in content areas and in daily life is nonfiction (Caswell & Duke, 1998; Harvey, 1998; Moss & Newton, 2002). In addition, writing in the nonfiction genre generally requires extensive reading and research about topics and may help develop critical thinking skills (Duke, 2000). The National Commission on Writing in America's Schools and Colleges explains that, "While exercises in descriptive, creative, and narrative writing help develop students' skills, writing is best understood as a complex intellectual activity that requires students to stretch their minds, sharpen their analytical capabilities, and make valid and accurate distinctions" (2003, p. 13).

Significance of Study

"Not only is writing important for itself, but the strong relation of writing to reading and language suggests that the development of writing may also enhance reading and language" (Chall & Jacobs, 1984, p. 101). Because of the connection between the

development of reading and writing, one of the approaches to helping students improve their reading and writing abilities may be through instructional activities that explicitly connect their writing with their reading. There has been extensive research on the reading-writing connection, but it has mostly focused on how reading influences writing rather than how writing influences reading (Corden, 2007; Dressel, 1990; Eckhoff, 1984; Garrigues, 2004). Much less has been done to see how writing improves reading. The majority of studies that have considered writing's effect on literacy skills have either looked at how writing interventions improve writing (rather than reading) or have focused on higher education or primary grades (Craig, 2006; Glenn, 2007; Rickon, 2005; Tierney, Soter, O'Flahavan, & McGinley, 1988). However, the research about reading and writing suggests that using identified effective writing instruction would improve not only writing, but reading as well (Biancarosa & Snow, 2004; Corden, 2007; Fisher & Frey, 2003). In her look at emerging literacy, Hansen (1981) asserted, "Writing is the foundation of reading; it may be the most basic way to learn about reading" (p. 178). Farnan and Dahl (2003) believed that future research must look at how the reading-writing relationship changes as students develop and determine which practices take advantage of this reading-writing interaction. Knowing what kind of writing instruction could best help students is essential.

Besides examining the reading-writing connection, this investigation helps fill a gap in the research on writing workshop, a method of writing instruction that has become increasingly popular (Pritchard & Honeycutt, 2005). To date, there have been no formative studies that examine the difficulties that teachers face with writing workshop's

implementation; thus, this study advances the literature on formative experiments while seeking to determine what impedes successful implementation of a writing workshop, specifically one focused on nonfiction texts. This may help teachers who wish to conduct writing workshops in their own classrooms.

Purpose

The purpose of this study was to determine how a nonfiction-focused writing workshop can be implemented in a fourth-grade classroom to improve students' reading and writing abilities and attitudes. A major component of the writing workshop was emphasizing the connection between reading and writing. To stress this reading-writing connection, the teacher extensively and explicitly used literary models from multiple nonfiction genres to teach students how to examine texts for author's craft. This study also sought to understand what factors enhanced or inhibited the effectiveness, efficiency, and appeal of a nonfiction-focused writing workshop through a formative experiment. Unlike many other types of research that begin with specific research questions, formative experiments focus on achieving a valued pedagogical goal and are guided by broad questions aimed at revealing how an intervention can be implemented to achieve them. Reinking and Watkins (2000) outlined six questions for designing and conducting a formative experiment:

1. What is the pedagogical goal of the experiment, and what pedagogical theory establishes its value?
2. What is an instructional intervention that has potential to achieve the identified pedagogical goal?

3. As the intervention is implemented, what factors enhance or inhibit its effectiveness in achieving the pedagogical goal?
4. How can the intervention and its implementation be modified to achieve more effectively the pedagogical goal?
5. Has the instructional environment changed as a result of the intervention?
6. What unanticipated positive or negative effects does the intervention produce?

These questions provided the framework for the current investigation, guiding its content and organization. In Chapter 2, I review the relevant literature to establish the pedagogical goal and its intervention, thus answering questions 1 and 2. I discuss the method and methodology in Chapter 3, which does not answer a specific question of the framework but is essential in understanding the study and subsequent questions. Chapter 4 examines the data to answer questions 3 and 4; specifically, I describe the following: (a) the context of the study, (b) the implementation of writing workshop, (c) factors that enhanced or inhibited the intervention and modifications that were made, and (d) evidence of progress toward achieving the pedagogical goal. In Chapter 5, I answer questions 5 and 6 through examining how the instructional environment changed as a result of the intervention and the unanticipated positive and negative effects that the intervention produced. Finally, I discuss implications for future research and classroom practices and limitations of the study, as well as methodological issues and insights that arose during the course of the study.

Definition of Terms

Key terms used in this investigation are defined as follows:

Author's craft: What an author does to make his/her writing effective (e.g., figurative language, strong verbs, sentence structure, text forms, etc.) (Laminack, 2007)

Intervention: Some activity or process that aims to address a problematic area of instruction or positively transform instruction (Reinking & Bradley, 2008).

Reading-writing connection: The belief that reading and writing share cognitive processes and that reading and writing influence one another (Shanahan & Lomax, 1986).

Formative experiment: A research methodology aimed at developing, testing, and refining pedagogical theory in the crucible of practice, and specifically at determining the following: (a) what factors enhance or inhibit an intervention's effectiveness in achieving a valued pedagogical goal (i.e., positive change) and (b) how the intervention, in light of those factors, can be implemented more effectively (Reinking, 2007).

Frustration Reading Level: Determined by the informal reading inventory, it is the level at which material is too difficult to read, even with assistance. Word recognition at this level is below 90% and comprehension is less than 50% (Stieglitz, 2002)

Independent Reading Level: Determined by the informal reading inventory, it is the level at which material can be read with little to no difficulty, meaning words in the passage are recognized 99% of the time and the information can be retold with 90% accuracy (Stieglitz, 2002).

Informal Reading Inventory: A reading assessment commonly used to determine reading abilities. IRIs typically consist of graded word lists and passages (Paris & Carpenter, 2003).

Instructional Reading Level: Determined by the informal reading inventory, it is the level at which a child can recognize about 95% of the words in a passage and answer comprehension questions with about 75% accuracy (Stieglitz, 2002).

Literature models: Texts used to demonstrate a specific aspect of author's craft, such as strong leads or circular endings (Fletcher & Portalupi, 2001a).

Nonfiction: Informational or expository text that may include, but is not limited to, books, newspapers, magazines, factual websites, and articles (Saul & Dieckman, 2005)

Self-efficacy: The degree to which individuals believe that they are capable of achieving a specific goal (Bandura, 1986).

Writing workshop: A format of writing instruction that advocates more student choice, authentic purposes for writing, extensive writing time, and sharing of a teacher's and students' writing. It generally consists of a mini-lesson about a particular aspect of writing, a period devoted to writing, and sharing what has been written (Fletcher & Portalupi, 2001b).

CHAPTER 2

REVIEW OF LITERATURE

“Writing is just as important to improving reading as reading is”

(Ellis and Marsh, 2007, p. 51).

“We know far too little about the relationship between reading and writing”

(Stotsky, 1984, p. 7).

This chapter reviews the literature that supports the answer to the first two questions in a framework for conceptualizing and conducting formative experiments as proposed by Reinking and Watkins (2000):

1. What is the pedagogical goal of the experiment, and what pedagogical theory establishes its value?
2. What is an instructional intervention that has potential to achieve the identified pedagogical goal?

The pedagogical goal of the formative experiment reported here was to increase fourth-grade students’ reading comprehension and writing abilities by engaging students in writing workshop activities that focus on nonfiction texts. The importance of this goal and the rationale for the intervention are found in the literature documenting that (a) reading and writing are connected processes and their instruction should be integrated; (b) writing should focus on process and not just product, which can be accomplished in a writing workshop; (c) nonfiction has a critical place in the intermediate classroom; and (d) there is a gap in the research on how combining these elements would affect students’

reading and writing. I will also discuss the theoretical and epistemological orientation of the study.

Reading-Writing Connection

Theoretical Bases of Reading-Writing Connection

There has been a long standing belief that there is a connection between the processes of reading and writing, and several early studies found a positive correlation between the two processes (Brogan & Fox, 1961; Loban, 1963; Schonell, 1942; Woodfin, 1968). In the decades since these studies, researchers have continued to try to determine more precisely the relation between reading and writing and how that relation might affect instruction.

To gain a better understanding of the reading-writing connection, Shanahan and Lomax (1986) reviewed three theoretical models that propose a relation between reading and writing. The first was an interactive model in which reading and writing influence each other. In this model reading knowledge is comprised of three latent, or not directly observable, variables: word analysis, knowledge of vocabulary, and comprehension. Writing knowledge is comprised of four latent variables: spelling, vocabulary, syntax, and story structure. The second model was the reading model, which proposed that reading knowledge influences writing, but writing does not influence reading. The third model proposed that writing knowledge influences reading, but reading does not influence writing. This model contended that writing can be learned prior to learning to read and that writing can affect reading at all discourse levels. These alternative theories have clear implications for instruction, as an “understanding of the relationship

eventually could lead to the design of more efficient reading and writing curricula” (Shanahan & Lomax, 1986, p. 116). Using a LISREL analysis, Shanahan and Lomax (1986) analyzed reading data from a variety of reading tests including the Stanford Diagnostic Reading Tests (SDRT) and the Gates-MacGinitie Reading Tests (GMRT) and writing data from two stories from the 256 second-grade and 251 fifth-grade students who participated in the study. They used this data to determine which theory accounted for the most variance in reading and writing performance as measured by the chi-square goodness of fit index. They found that the interactive model fit the data best at both the second-grade, $X^2(45, N = 256) = 225.27, p < .05, RMSR = .131, AGFI = .804$, and fifth-grade levels, $X^2(45, N = 251) = 121.18, p < .05, RMSR = .082, AGFI = .882$. Thus, there is support for the contention that reading and writing share some cognitive processes and that reading instruction does not have to precede writing instruction, rather the two should be taught simultaneously. “Reading influences writing, *and* writing influences reading; theories of literacy development need to emphasize both of these characteristics similarly” (p. 208). Shanahan and Lomax (1988) later elaborated on their work on the interactive reading-writing connection, asserting that reading influences writing and vice versa and that language arts instruction should integrate reading and writing.

Tierney and Shanahan’s (1991) analysis concluded that the reading-writing relationship is complex and does not necessarily mean that improvements in one area result in concomitant improvements in the other. It seems that reading and writing share cognitive processes and that they are best taught in conjunction with one another.

However, “What is needed is research on literacy that explores reading and writing together with all the attendant complexity and does not retreat to exploring reading and writing simplistically or separately” (p. 274). Tierney and Shanahan (1991) emphasized their belief that reading and writing need to be “viewed together, learned together, and used together” (p. 275).

Fitzgerald and Shanahan (2000) reviewed the research on reading and writing and also concluded that reading and writing make use of the same cognitive processes. They stated that there are four types of knowledge that both readers and writers must use: (a) *metaknowledge*, which involves several processes including knowing why people read and write, understanding that readers and writers interact, and monitoring one’s understanding of what is being read or written; (b) *domain knowledge* about substance and content related to background knowledge, vocabulary, and text connections; (c) *knowledge of universal text attributes* refers to phonological and grapheme awareness, syntax, text structure, and text organization; (d) procedural knowledge, which is the skill to negotiate reading and writing related to the ability to access and use all of the previously stated types of knowledge. They asserted that although there are certainly differences in some of the skills necessary for reading and writing, focusing on their shared development would discourage unnecessary and inefficient separation of reading and writing. They also argued for further research into how teaching about each of these types of knowledge affects learning simultaneously in reading and writing, and how teaching these processes together would facilitate learning both skills.

Reutzel and Smith (2004) compared Fillipo's (1998) findings from her "Expert Study" of general principles thought to make reading difficult to current research of groups such as the National Reading Panel and The Center for the Improvement of Early Reading Achievement. One of the few areas where both the experts and current research agreed was in the need for students to "read like writers" and "write like readers" (p. 81). Understanding this connection between the two processes gives children greater insight into the nature and structure of written language. "Teaching students how to use an author's text organization or structure to improve reading comprehension is a particularly important practice for accelerating struggling readers' progress" (Reutzel & Smith, 2004, p. 81).

The idea of readers as writers and writers as readers seems to have arisen from the view that reading and writing are meaning-making processes, involving planning, generating, and revising meaning (Graves & Hansen, 1983; Tierney & Pearson, 1984; Wittrock, 1984). Smith (1983) argued that one cannot be a writer without reading as one. Reading like a writer enables the reader to make meaning, as well as learn from the author's style. Langer (1986) explained that reading and writing are "meaning building activities where ideas flex and form" (p. 3). She believed that a better understanding and utilization of the relationship of reading and writing would contribute to students engaging in more critical thinking (Langer, 1995).

Although we know that reading and writing are complementary processes, historically the two subjects have been taught separately. Guiliano (2001) explained that in English classes, literature is often separate from and privileged over composition. He

asserts that this split is artificial and that reading and writing are related because they are both forms of thinking about one's own and others' thinking. Teachers need to make the complex cognitive process of reading and writing visible to students and "show them that reading and writing are acts of critical inquiry, not missions for finding the right answer" (p. 391). Further, Guiliano stated that in effective reading and writing instruction, reading supports writing and writing supports reading.

Pedagogical Application of the Reading-Writing Connection

Applying the reading-writing connection to classroom instruction has resulted in positive outcomes at various levels (Glenn, 2007; Harste, 1988; Heller, 1999; Olson, 2007; Parodi, 2007; Tierney, Soter, O'Flahavan, & McGinley, 1989). At the college level, Tierney, Soter, O'Flahavan, and McGinley (1989) found that using reading and writing together facilitated critical thinking. Their study showed that combining reading and writing resulted in more critical thinking than either of these processes alone or in combination with questioning or knowledge activation activities.

Glenn (2007) further explored the relationship between reading and writing when she looked at whether writing fiction unrelated to a specific text affected students' reading. Her study involved eight graduate-level, pre-service teachers in a Young Adult literature course. In essence, Glenn asked her students to read like writers and use their reading to help them write better fiction. She related the act of reading to writing, asking students to read for the purpose of finding ways to improve their own writing but did not connect to any specific text. Glenn analyzed student reflections qualitatively using the constant comparative method and found three emergent themes that she labeled why,

how, and what. She stated that students sought to identify techniques authors used, looking for the intention behind the text (why); tried to use effective reading strategies to learn more about the author's craft (how); and critically analyzed texts as they tried to improve their own writing (what). Glenn found that all participants, including reluctant and proficient readers, demonstrated attributes of good readers that were directly related to their commitment to their own writing.

McGinley (1992) studied the role of reading and writing when students were composing from sources such as popular magazine articles and how reading, writing, and reasoning are related. He conducted a case study examining the composing process from sources of seven college students. Analysis from think-aloud transcripts, debriefing interviews, student essays, and observational notes led McGinley to conclude that composing is not linear from reading to writing. Instead, students alternated between reading and writing. This approach was evident when students used original sources such as articles from *U.S. News & World Report* and when they read their own drafts and notes. McGinley stated that "different reading and writing activities functioned in unique yet partially overlapping ways" (p. 235). He surmised that although students had different reasoning, reading, and writing processes, all processes were recursive and interactive.

At the middle school level, Parodi (2007) studied the relation between reading comprehension and written products. His study of 439 eighth-grade students and their ability to produce argumentative text found a positive correlation (.72) between reading comprehension measured by researcher designed comprehension tests ($r = .89$) and the

quality of their writing as measured by specified parameters of argumentative texts such as maintaining cause-effect relations. Further, students used common strategies in their reading and their writing. Parodi theorized that the difficulties that students face in both reading and writing relate in part to limitations in short-term memory. He stated that these students tended to focus on particular ideas without making connections to the entire text. Thus, they did not construct a coherent interpretation of what they were reading and consequently produced disorganized written texts.

Lee, Collins, and Fox (2008) explored the idea that writing can enhance reading in their study of a curricular intervention referred to as Writing Intensive Reading Comprehension (WIRC). They found that having elementary students write as they read increased their reading comprehension as measured by pre- and post-tests constructed from previous years' New York State English Language Arts (NYSELA) assessments. Fletcher and Portalupi (2001a) also believed that it is vital to use reading to support writing, suggesting that when teachers teach writing, they not only surround their students with quality literature to help with their writing, but use texts to directly model and explicitly teach areas of the writers' craft.

Many studies have found that mentor, or modeled, texts positively influence writing (Corden, 2007; Eckhoff, 1984; Kaminski, 1994). Students incorporate elements of literature read-aloud and that they read themselves, including use of dialogue, use of language, and story structure (Dressel, 1990; Garrigues, 2004). Building on the idea of learning from authors, Corden (2007) looked at how explicit instruction in literary devices using mentor texts influenced the quality of children's writing. One of the main

goals of Corden's study was to see if children could move beyond copying from a mentor text to "developing a conscious awareness of what structural or stylistic choices they were making and why" (p. 270). Teachers supported students through modeling, and drawing attention to specific parts of mentor texts. Corden found that with help, students began to read text critically and gained an awareness of textual structure, which was reflected in their writing. He also found that children learned new language to use in discussing the texts that they were reading and in discussing their own writing. Garrigues (2004) examined how using modeled texts affected student writing and found that her students better understood that reading and writing were related and how to "apprentice themselves to an author" (p. 65). Overall, substantial research supports that modeled texts have a positive effect on student writing

Reading-Writing Connection and Students who Struggle with Language Arts

Many studies investigating the reading-writing connection have examined students who have difficulty with language arts. A closer look at the literature will help build a better understanding of how this connection might be utilized to help such students.

Fisher and Ivey (2006) evaluated classroom interventions for struggling adolescent readers and found five key components for effective interventions. Three of the five involved authentic reading-writing experiences: (a) a comprehensive approach to teaching reading and writing rather than isolating reading and writing instruction into separate skills; (b) reading and writing that is engaging, interesting, and diverse; and (c) interventions that allow time for authentic reading and writing. Authentic literacy

activities are often defined as those that replicate or reflect writing and reading that would be done outside of school. Authentic reading and writing have been linked to more rapid growth in comprehension and writing ability (Duke, Purcell-Gates, Hall, & Tower, 2006) and in understanding of content area reading (Purcell-Gates, Duke, & Martineau, 2007). Using instruction involving an authentic and relevant task will likely be more engaging for students (Brophy, 2004; Cunningham & Allington, 1999).

Routman (2000) discussed having students with reading difficulties write their own texts based on their interests. Such an approach, she argued, increases motivation, which in turn can help students become more proficient readers. She also argued that using writing as a way of creating meaning helps students learn to read. Calkins (2001) contended that “writing can be a very powerful way to teach reading skills, especially for struggling readers who need to become more resourceful word solvers” (p. 165). Fountas and Pinnell (2001) agreed that students who have trouble reading need to spend more time writing about many different topics.

Some studies have looked specifically at how teachers can help students who struggle with reading and writing. Tompkins (2002) designed an intervention for such students that focused on using authentic reading and writing. In addition to using authentic reading and writing, Tompkins found other strategies that were effective in helping these struggling writers. A writing workshop format generated enthusiasm, and teaching the writing process helped students move beyond the misconception that good writers only do one draft. These students needed a variety of writing instruction, including shared, interactive, guided, and independent writing.

In another study, Fisher and Frey (2003) used a gradual release model. In this type of model, teachers assume the major responsibility for writing with a focus on the Language Experience Approach (LEA) and interactive writing, gradually allowing students to assume all of the responsibility through independent writing. They found that such scaffolding increased students' writing fluency, accuracy, and length of response. In addition, the reading level of students increased on average by more than one grade level in less than four months (Fisher & Frey, 2003).

Furr (2003) found that struggling readers can often identify what good writing sounds like but lack the language they need to do their own personal writing. These students did well in a modified writing workshop format with teacher scaffolding. In addition, many of the students found informational texts more readable than fiction. Examining a nonfiction-focused writing workshop may add to this finding. Furr (2003) suggested that teachers capitalize on students' interest and experience with nonfiction texts by having them write their own nonfiction on the topics that they have studied, such as in the current study. Because they are writing about a topic that they have studied, the language students need to write is no longer elusive.

Other studies have also found nonfiction texts to be beneficial for students who struggle with reading and writing. Read (2005) stated the importance of using informational texts for writing in the primary grades in her qualitative study. She found that informational writing encouraged students to reread their writing, which became part of their writing process. To avoid frustrating struggling readers, some teachers may shy away from more difficult writing tasks, but Miller's (2003) study of how high and low

challenging tasks affect motivation showed that students with learning difficulties actually preferred more challenging tasks if their teacher used them frequently.

Some work has examined how writing instruction affects reading, particularly in the primary grades (Craig, 2006; Rickon, 2005). Students who are unable to read others' texts are often able to read their own written stories (Routman, 2000). Rickon (2005) conducted a teacher inquiry to see if guided writing instruction based on Marie Clay's work could help three of her struggling first-grade students. She used guided writing activities based on what the students read to differentiate her instruction and all three students showed improvement in their reading. Rickon's study is small, however, and gives limited information about how reading and writing interact.

In her meta-analysis of studies where instruction was aimed at improving writing with an effect on reading, Stotsky (1984) summarized that these studies did not show gains in reading. However, in these studies writing instruction did not explicitly connect reading and writing; rather, they relied on expected automatic improvement of reading because of improvement in writing. A more recent meta-analysis might give a better understanding of how writing instruction can affect reading.

Writing Process Theory and Writing Workshop

Development of Writing Process Theory

Prior to the development of the concept of a writing workshop, much work was done to examine writing process. In the 1970s, researchers such as Graves (1975) and Emig (1971) encouraged writing teachers to concentrate on process rather than just product. Flower and Hayes' (1981) model of writing reflected that shift in thinking.

Their model contained three main elements: task environment, long-term memory, and writing processes. The task environment involves everything external to the writer, such as topic and environment. Long-term memory is important because it is where important information is stored that helps a writer produce a high-quality text. The third element, writing process, is where a great deal of attention has been focused by writing teachers and researchers. In writing process, Flower and Hayes identified three primary phases of writing: planning, translating and reviewing. Within Flower and Hayes' phases, one can find practices such as prewriting, drafting, and editing. It is important to note that the writing model developed by Flower and Hayes was not linear, but recursive. Writers can change strategies and phases at any time as their writing goals change (Lynch, 1998). As writers monitor the progress of their text, they may decide that there is a disparity which calls for a shift from one phase to another.

Graves (1994) proposed a different, but complementary, explanation of the writing process, explaining it as a process of reduction. Writers must repeatedly reduce their innumerable thoughts and images to a single sentence. They rewrite and rework, add and take away until the words on the page match the meaning they are trying to convey, a task which requires metacognition. To be able to reduce thoughts to single sentences and find the words that are "just right," a writer must be cognitively aware.

Complications of Studies on Writing Process

Graham and Perin's (2007) meta-analysis of studies of the writing process approach found that it was only effective for teachers who had been trained to use it, except in grades 4-6 where the effect size was minimal (.27) even without training. For

teachers with training, the effect size was moderate (.46). Many of the studies included in the meta-analysis, however, looked at the process approach versus other approaches such as strategy instruction or grammar instruction, rather than how the process approach works when these are incorporated into it. Thus, it is unclear what the effect would be if such forms of instruction were integrated with the process approach.

Further complicating the research, Pritchard and Honeycutt's (2005) review of research on using the writing process to teach writing found that the writing process method is often ill-defined. They explained that the writing-process model of instruction has evolved over the years and that early in its inception this type of writing instruction involved little teacher intervention. Later it was seen as a series of linear steps rather than a recursive process. According to Pritchard and Honeycutt (2005), today "researchers of the process model recognize that it involves both procedural knowledge and many other kinds of strategies that can be nurtured and directly taught" (p. 276).

Because the definition of the writing process model has changed substantially since its inception, the research on it is inconclusive. Sometimes the writing process approach is referred to as a natural or whole-language approach where students just write a great deal (Varble, 1990) or as non-direct instruction (Troia & Graham, 2002). Others believe that direct strategy instruction and guided practice are vital to this type of writing instruction (Atwell, 1987; Calkins, 1986; Fletcher & Portalupi, 2001b; Ray, 2001). Considering that direct strategy instruction has a major influence on student writing, these differences in definitions create an array of conflicting results.

Writing Workshop

More definitive than the writing process approach is the writing workshop approach, which was created as a result of the emphasis on writing instruction rooted in process (Atwell, 1987; Calkins, 1986; Graves, 1975). This type of writing instruction advocates more student choice, authentic purposes for writing, extensive writing time, and sharing of both teacher and student writing (Fletcher & Portalupi, 2001b; Ray, 2001). Writing workshop's basic components are mini-lessons, independent writing time with teacher conferencing, and share time (Ellis and Marsh, 2007).

The writing workshop model fits well within the process approach that Graham and Perin (2007) found to be most effective in teaching writing. Their process approach included the following: (a) extended opportunities for writing, (b) an emphasis on authentic audiences, (c) a recursive writing process, (d) student ownership of writing, (e) student interaction, (f) development of supportive writing communities, (g) student self-evaluation and reflection, and (h) individualized instruction to meet students' needs.

Several studies have examined writing workshop's use in the classroom. Clippard and Nicaise's (1998) quasi-experimental study investigated 27 fourth- and fifth-grade students with significant writing deficits to determine if engaging in a writing workshop would help improve their writing. The study compared students in a writing workshop to those who did not participate in writing workshop but who did write across the curriculum. The students in the writing workshop did not score statistically higher on standardized tests, but they did score significantly higher on direct writing samples. In

addition, the students reported higher self-efficacy related to writing and that they enjoyed writing more.

Jasmine and Weiner (2007) found that first graders were more positive about their writing ability after their participation in a writing workshop. They utilized a mixed methods approach through conducting observations, collecting survey and interview data, and student writing samples. The students wanted to write more and were often found writing outside of scheduled writing times. Comparisons of pre-post data showed increases in students' scores on revision and editing.

Fu and Shelton (2007) studied an inclusive model of writing workshop. Their study, which began as a teacher inquiry but later expanded to include a researcher from a local university, focused on a third-grade classroom with 29 students, nine of which were identified as having a learning disability. The researchers used student work and an assessment of writing skills and learning and social behaviors to investigate how writing workshop affected students in an inclusion classroom. They found that the students with learning disabilities developed confidence and improved in their writing ability. Focusing early in the school year on community building to avoid students feeling excluded and to help students understand how to support each other seemed to be the most important factor in the success of the writing workshop.

Other studies have looked at how particular aspects of the writing workshop affect students. For example, a major part of writing workshop is allowing students to choose their topics. Doing so is believed to make writing more meaningful and, thus, lead to better writing (Bintz & Dillard, 2004; Cohen, 2004). Heffernan and Lewison (2003) also

found that topic choice led to improved writing when students were shown how to write stories with social themes of their choice. Dutro, Kazemi, and Balf (2006) attested to the importance of the individual student-teacher conferences that are included in writing workshops, suggesting that teachers need to look more closely at their students' writing, particularly those who experience difficulties, to really understand their abilities. They stated that students' identities are often tied to their writing and students need an environment where they can be successful.

Writing workshop has limitations. The independence it can offer is sometimes not effective for struggling writers who are often better served with explicit instruction (Helsel and Greenberg, 2007; Rupley, Blair, & Nicols, 2009). In addition, some students are reluctant to share their work with their classmates because of fear of embarrassment or because it is intimidating (Heffernan, 2004). In his book *When Children Write: Critical Re-Visions of the Writing Workshop*, Lensmire (1994) asked teachers to be "critically pragmatic" in their responses to children's writing and to promote "an engaged, pluralistic classroom community" (p. 146). Students' writing may contain stereotypes and bias which are ignored because of the belief in student ownership of writing (Lensmire, 1994). Comber and Cormack (1995) shared the concern that there can be too much focus on the individual and not enough on whether students are aware of the implications of their writing, stating, "Sexist, racist, and violent writing is published simply because it is a child's product" (p. 4). Others stress that writing workshop can go beyond typical personal narrative writing and address more critical issues such as racism

and classism and urge teachers to utilize the workshop to help students become critical thinkers (Heffernan, 2004; Lewison and Heffernan, 2008).

Whereas there are numerous books and studies on writing workshop (Fletcher & Portalupi, 2001; Mermelstein, 2007; Painter, 2006; Ray, 2001; Ray, 2006a; Ray & Cleaveland, 2004), little has been done to study the role of nonfiction, and there have not been any formative experiments specifically aimed at determining the factors enhancing or inhibiting the workshop.

Motivation and Writing Workshop

Motivation is a critical component of all areas of learning, and reading and writing are no exception. Meece and Miller (1999) explained that because reading and writing activities become more demanding as students progress through the elementary grades, motivation can be a critical determinant of student success. Supporters of writing workshop maintain that it motivates students while improving their writing ability (Chakraborty and Stone, 2008; Tompkins, 2002), but more needs to be done to explore the role of motivation in writing workshop. The motivational effect of writing workshop appears to be tied to its promotion of self-efficacy (Clippard & Nicaise, 1998; Walker, 2003), which has been found to be a critical component of students' engagement and learning (Linnenbrink & Pintrich, 2003). The idea of self-efficacy grew out of Bandura's (1986) social learning theory and is essentially a person's belief that he or she is capable of achieving a specific goal (Bandura, 1997). The body of research related to self-efficacy shows that it plays an important role in writing instruction for both students and teachers (Graham & Weiner, 1996; Pajares, 2003; Pajares, Johnson, & Usher, 2007).

For students, self-efficacy can affect “the choices they make, the effort they expend, the persistence and perseverance they exert when obstacles arise, and the thought patterns and emotional reactions they experience” (Pajares, 2003, p. 140). Self-efficacy has been shown to be a consistent predictor of behavior outcomes (Graham & Weiner, 1996) and is correlated with students’ academic performance and achievement (Pajares, 1996, 1997; Pajares, Johnson, & Usher, 2007). In his meta-analysis of the research on writing self-efficacy, Pajares (2003) found that students’ confidence in their writing ability influenced their motivation to write and their writing outcomes in school. Writing workshop is intended to foster students’ feelings of efficacy by giving them more control and focusing on the individual needs of students and their writing process (Atwell, 1987; Calkins, 1994).

Self-efficacy is important for teachers as well because their efficacy beliefs affect instructional practices and the academic success of students (Anderson, Green, & Loewen, 1988; Ashton & Webb, 1986; Fuchs, Fuchs, & Bishop, 1992; Guskey, 1988; Midgley, Feldlaufer, & Eccles, 1989; Ross, 1992; Skaalvik & Skaalvik, 2007; Tschannen-Moran, Woolfolk-Hoy, & Hoy, 1998). Teacher self-efficacy has an effect on teaching all types of students. For example, Woolfson and Brady (2009) found that teachers’ beliefs in their ability to help students with learning disabilities was a key factor in helping them teach mainstreamed students, more than experience or professional development. Teachers with higher self-efficacy were less likely to attribute difficulties to the students’ ability and therefore were more able to adjust to teaching mainstreamed students. Studies have been done in educational settings around the world, emphasizing

the importance of teacher self-efficacy on learning outcomes (Chan, 2008; Nota & Soresi, 2009; Onderi & Croll, 2009; Wang & Liu, 2008).

Metacognition and Writing Workshop

Motivation also plays a role in students' willingness to use metacognitive strategies (McCombs & Marzano, 1990; Oldfather, 1993; Paris & Oka, 1986; Schunk & Zimmerman, 1997). Successful use of metacognitive strategies is important for students' overall achievement in writing in general because students must learn when it is appropriate to use strategies in their writing (Helsel & Greenberg, 2007) and in writing workshop in particular because of the independence writing workshop allows students (Felton & Herko, 2004; Maltese, 2006; Ray, 2006b). Repeatedly, researchers have found that explicit instruction in metacognitive strategies improves writing. Without this instruction, students' will use metacognitive strategies minimally. For example, without training, elementary students spend little time revising, a part of the writing process that uses metacognitive strategies because it requires students to effectively self-regulate their use of writing strategies. Instructing children on strategies such as self-questioning can help children detect and revise problems in their writing (Bonitatibus, Beal, & Garrod, 1990). McCutchen's (1988) study found that the main difference between skilled and less skilled writers is their extent of metacognitive control over writing subprocesses. Baer (1994) found that middle-school students did not have well-developed metacognitive knowledge bases and maintained that developing interventions that focused on developing metacognitive strategies would improve students' problem-solving ability in writing. Overall, the existing research suggests that metacognitive

awareness improves writing and that writing can improve metacognition. What is less clear is how teachers can structure their writing workshops to utilize the reading-writing connection and promote metacognitive awareness. Thus, in the present study the teacher's focus on helping students use strategies independently may help better understand how this metacognitive awareness occurs.

Nonfiction Texts in the Intermediate Grades

Multiple studies have touted the importance of nonfiction texts in the primary grades (e.g., Duke, 2000; Hall & Sabey, 2007; Maloch, 2008; Read, 2005; Read, Reutzel, & Fawson, 2008; Yopp & Yopp, 2006a; Yopp & Yopp, 2006b), but much less has been done to learn how to help students learn to read and write nonfiction texts in the intermediate grades, which is particularly important because as students move into the intermediate grades there is generally a shift from focusing on learning to read to reading to learn, particularly in content areas (Chall & Jacobs, 2003). Once children move beyond early reading, their development usually focuses on improving their reading comprehension skills, such as summarizing, evaluating, and making connections (Biancarosa & Snow, 2004). Whereas children are expected to comprehend a great deal more nonfiction content area text in the intermediate grades, their reading instruction still consists primarily of fictional texts (Harvey, 1998). Caswell and Duke (1998) provided data substantiating that narrative texts often dominate in elementary classrooms, where learning to read and write often means reading fictional narratives and writing personal narratives. In their study on the quantity of informational literature found in six basal readers across three grade levels, Moss and Newton (2002) found that only 20% was

nonfiction. Similarly, Duke (2000) reported few informational texts in the first-grade classrooms she studied. She found that students spent an average of 3.6 minutes per day with informational text during written language activities. Calkins, Montgomery, Santman, and Falk (1998) found that the relatively short time spent with nonfiction text in the classroom was not reflected in standardized tests where 50-85% of the texts were informational.

The disconnect between what is expected and what is taught may contribute to reading difficulties. Sanacore and Palumbo (2009) contended that children's immersion in narrative texts leaves them unprepared to handle informational texts, which are "substantially different [in] structure and content" (p. 68). This differing structure can cause problems for readers and writers of nonfiction texts, particularly if they have little experience with it (Farnan & Dahl, 2003; Graesser, Golding, & Long, 1991; Leach, Scarborough, & Rescorla, 2003; Zabucky & Ratner, 1992). Fang (2008) explained, "While all children need exposure to a wide range of text types, older children in particular need to engage with well-written texts that provide demonstrations of features of expository text" (p. 482). Expository texts may motivate students to read and write about topics of which they are interested (Caswell & Duke, 1998; Duke, 2004; Jobe & Dayton-Sakari, 2002) and many students prefer nonfiction to fiction (Caswell & Duke, 1998; Kletzien & Szabo, 1998; Pappas, 1993). Harvey (1998) stated, "When I am intrigued or perplexed by something, I begin collecting information and curating this new idea, recording my thoughts and questions in my notebook. The more information I collect, the greater my desire to find out about the idea" (p. 32). She suggested that we

do the same with our students, giving them authentic purposes for reading and writing. Similarly, Duke wrote, “What we too often forget when considering the importance of nonfiction reading is the pleasure, the art, the wonder of it. We do not want to develop students who read nonfiction just for function, or for school success, but students who read nonfiction for enjoyment, to be fascinated, to discover” (Snead, 2006, p. ix).

Theoretical and Epistemological Orientation

Two learning theories served as a framework for selecting the intervention, as well as collecting and analyzing data: socio-cultural theory and social cognitive theory, both of which stress the social aspect of learning.

Socio-Cultural Theory

Vygotsky’s (1978) socio-cultural theory is based on the premise that learning is dependent on people’s interactions with one another and the tools that a culture provides to help learners form their own view of the world. According to Vygotsky, these cultural tools can be passed from one individual to another in three ways: imitative learning, instructed learning, and collaborative learning. Imitative learning occurs when one person tries to imitate or copy someone, as in this study when students imitated the writers or their teacher. Instructed learning requires a student to remember the teacher’s instructions and then using these instructions to self-regulate, as in the mini-lessons. Collaborative learning involves a group of peers who work together to learn a specific skill, such as when students help one another on a piece of writing. From a socio-cultural perspective learning to read and write cannot happen without interaction, especially with a more-able peer or teacher. Vygotsky (1978) referred to the ability of students to

complete tasks with the help of someone else that they could not do alone as the Zone of Proximal Development (ZPD).

Social Learning Theory

Bandura's (1986) social learning theory guided this study in two major ways. First, social learning theory stresses that people can learn from observing others (Bandura, 1986). In the case of this study, students can learn how to become better writers through reading and analyzing the works of others, as well as through the modeling of their teacher. Second, social learning theory highlights the importance of self-efficacy, discussed in detail earlier in this chapter.

Pragmatism

Epistemologically, formative experiments are consistent with the philosophy of pragmatism (Reinking and Bradley, 2008), as will be further discussed in Chapter 3. Pragmatism is well-suited for this type of study because it affords methodological flexibility and it focuses on the implications of practice.

Summary

A large body of work has contributed to the conception and design of this study. Researchers have been working for decades to learn how we can most effectively teach our students literacy skills. There are no clear answers, but it seems that explicitly connecting reading and writing in a way that emphasizes metacognition while motivating students is a good place to start. The role that nonfiction might play in this is even less definitive. This study seeks to learn how a writing workshop might utilize the work of previous researchers to help students become better readers and writers.

CHAPTER 3

METHODOLOGY

The purpose of this study was to determine how a nonfiction-focused writing workshop can be implemented in a fourth-grade classroom to improve students' reading and writing abilities and attitudes. Reinking and Watkin's (2000) framework for conceptualizing, conducting, and reporting a formative experiment guided the present study. That framework entailed addressing the following questions:

1. What is the pedagogical goal of the experiment, and what pedagogical theory establishes its value?
2. What is an instructional intervention that has potential to achieve the identified pedagogical goal?
3. As the intervention is implemented, what factors enhance or inhibit its effectiveness in achieving the pedagogical goal?
4. How can the intervention and its implementation be modified to achieve more effectively the pedagogical goal?
5. Has the instructional environment changed as a result of the intervention?
6. What unanticipated positive or negative effects does the intervention produce?

Formative experiments are a relatively new approach to research and aligned with closely related approaches referred to using other terms such as design-experiments (e.g., see Brown, 1992), and design-based research (van den Akker, Gravemeijer, McKenney, & Nieveen, 2006). Nonetheless several studies have employed this methodology. Examples of previous formative experiments include: (a) improving comprehension

through explicit strategy instruction (De Corte, Verschaffel, & Van De Ven, 2001), (b) literacy instruction in summer school (Duffy, 2001), (c) bi-lingual literacy (Ivey & Broaddus, 2007; Jimenez, 1997), (d) teaching social studies to middle school students with learning disabilities (Gersten, Baker, Smith-Johnson, Dimino, & Peterson, 2006), (e) enhancing independent reading with multimedia book reviews (Reinking & Watkins, 2000), and (f) access to books for low-income children (Neuman, 1999). Considered together, these articles can help understand the strengths of formative experiments, particularly how they take multiple, interacting variables into account as a means of managing the complexity of classrooms rather than trying to control them statistically or through an experimental design. Accepting the intricacy of classrooms allows for a better understanding of whether an instructional intervention is effective and feasible and in what context and allows teachers to work through problems that arise during a study to meet the needs of their students. These investigations also exemplify the use of established methodology, primarily mixed methods, in carrying out formative experiments, as well as highlight how formative experiments have been particularly utilized for literacy research and have been published in rigorous and highly regarded outlets.

Kelly (2003) explained that formative experiments would fall into the category of use-inspired basic research, as there is both a quest for fundamental understanding and a consideration of the usefulness of the research. At the core of all formative experiments is an explicitly-stated and justifiable educational goal that drives the research rather than a set of research questions; the purpose of the formative experiment is to achieve this

goal through a theoretically-based intervention, as well as learn what factors enhance or inhibit the effectiveness of the intervention. As these factors are identified, the intervention can be modified to make it more effective (Jacob, 1992; Newman, 1990; Reinking & Bradley, 2008). In short, formative experiments are meant to improve instruction through closing the gap between research and practice.

One of the most critical differences between formative experiments and other more traditional methodologies is the treatment of fidelity. Classrooms are synergistic, with multiple aspects overlapping and intertwining to the point of being impossible to study independently (Brown, 1992). In a formative experiment, rather than trying to control variation, the researcher welcomes both classroom variation and the teacher's responses to it as part of the context of the research (Reinking & Bradley, 2008). This ability to adapt instruction in response to naturally occurring variation changes some of the basic assumptions about research and its relation to practice. For example, in conventional scientific experiments using statistical analysis generalization is viewed in terms of being able to extrapolate findings from a sample to a population. In formative experiments generalization is viewed as informing practice, such as in a case-to-case transfer (Reinking & Bradley, 2008). In addition, in conventional experiments a teacher is often viewed as a nuisance variable, which may present difficulties in the relationship between practitioners and researchers. Synder (1992) described how conflicting agendas and shifts in power can make collaboration between a researcher and a teacher problematic. Formative experiments diminish this problem because rather than controlling for fidelity, researchers and educators work together to adapt and adjust an

instructional intervention toward accomplishing a pedagogical goal. This flexibility means that it is possible for an intervention to change significantly during the course of a study (Reinking & Bradley, 2008).

Another distinction of formative experiments is the use of theory, which guides the research but plays a different role than in other types of research. In a formative experiment there is a very close relationship between theory and practice. Essentially, this type of research focuses on a theory and implements it in the classroom. Often a researcher is looking for how a theory might need to be altered to fit a particular classroom context (Reinking & Bradley, 2008; Sandoval, 2004). Cobb, Confrey, diSessa, Lehrer, and Schauble (2003) explained that formative experiments aim to develop theories which are not necessarily overarching and explanatory but are targeted at a specific learning process. That is, formative experiments are not designed to test or develop abstract theoretical arguments, but rather to use theory to guide instructional practice in hopes of seeing improvement in learning.

Although the epistemological basis for formative experiments has not been firmly established, it is consistent with pragmatism (Dillon, O'Brien, & Heilman, 2000; Reinking & Bradley, 2008). Pragmatism emphasizes what works and how to solve problems (Patton, 1990); thus, it is well suited for this type of research. Reinking and Bradley (2008) explained, "...the knowledge that formative and design experiments generate is how to get from a current less satisfactory condition to a subsequent more satisfactory condition" (p. 37). With pragmatism there is less concern with a specific method of research; rather the focus is on using all available approaches to solving a

problem (Rossman & Wilson, 1985). The pragmatic nature of formative experiments means that they are not defined by the data collection and analysis methods used like quantitative and qualitative studies are. Instead a researcher uses the methodology that suits the goal, often mixed methods (Reinking & Bradley, 2008), enabling the researcher to draw from both quantitative and qualitative research (Creswell, 2009).

A formative experiment suited the current study for multiple reasons. First, writing workshops encourage daily fluctuation that occurs based on the needs of the students. This fluctuation means that writing workshops vary from classroom to classroom and from student to student, thus making them particularly difficult to try to implement with fidelity across time and context. In fact, because this flux is a natural and necessary part of writing workshop, trying to control variation would make it not only hard to understand what is occurring and why, but it would be inconsistent with the rationale for writing workshops. Walker (2006) contended that formative research is often better aligned with what is really happening in the classroom when compared to other types of research, and that viewpoint is particularly relevant for implementing writing workshops in classrooms. Second, at the heart of this study was a pedagogical goal: improving students' reading and writing. In an attempt to accomplish that goal, a nonfiction-focused writing workshop was implemented as an intervention, based primarily on the theoretical model of reading and writing as interactive processes that influence one another. Finally, the current study took a pragmatic approach, shaped in part by my substantial classroom experience and orientation, in its attempt to understand what factors enhance or inhibit a nonfiction-focused writing workshop.

Overview of Design

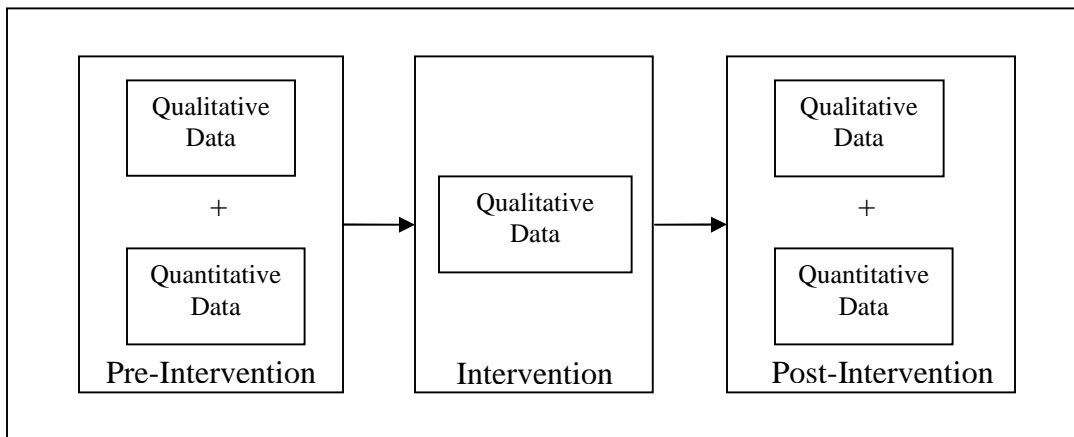
Four distinct phases comprised this study. The first phase was meeting with the classroom teacher and principal to explain the study, working through a preliminary timeline, discussing the intervention, and obtaining permissions. During second phase, I gathered baseline data. This phase continued for seven weeks. Quantitative data sources during this baseline phase were prompted writing samples, Stieglitz Informal Reading Inventory (SIRI) (Stieglitz, 2002), and the Heathington Intermediate Attitude Scale (Heathington, 1976) (see Appendix A). Qualitative sources were the teacher's reflective journal about what was occurring during writing workshop, student interviews (see Appendix B), teacher interview (see Appendix C), classroom observations and field notes, and classroom artifacts. In the third phase the intervention was implemented during which the teacher engaged students in a writing workshop using nonfiction texts. Together, the teacher and I decided on the essential components of writing workshop: mini-lessons based on students' needs, daily writing time that focused on process rather than only product, student choice in topics, collaborative writing, and multiple readings of students' own works. These essential components were consistent with the existing literature on writing workshop (e.g., Fletcher & Portalupi, 2001b; Ray, 2001). In addition, to emphasize the reading-writing connection, the teacher would extensively and explicitly use literary models from multiple nonfiction genres magazine feature articles and memoirs and teach students how to read texts for author's craft, as described subsequently in this chapter. Throughout the twenty-week intervention, data included the following: discussions with teacher, teacher reflective journal, student (unprompted)

writing samples, observation and field notes, and classroom artifacts. The final phase involved collecting and analyzing post-intervention data, which included the following: teacher interview, student interviews, SIRI, Heathington Intermediate Attitude Scale, and post-intervention prompted writing samples. Each of these phases will be described in detail in the procedures section.

Data Collection and Analysis

“Systematic approaches, including formative and design experiments, necessitate the use of at least some qualitative data, because they examine a wide array of potentially relevant interacting variables and factors that are difficult to manage using quantitative methods alone” (Reinking & Bradley, 2008, p. 46). Thus, conducting a formative experiment implies collecting qualitative data. However, because the goal of formative experiments is more than generating thick descriptions, as is often the goal of purely qualitative research (Merriam, 1998), quantitative data is often useful. Quantitative data is particularly helpful in establishing a baseline and measuring progress toward achieving a measurable goal (Reinking & Bradley, 2008). Thus, the current study employed both qualitative and quantitative data collection in a concurrent embedded mixed methods approach (Creswell, 2009). Qualitative data were collected throughout the study and quantitative data were collected before and after the intervention. Figure 3.1 illustrates the placement of quantitative and qualitative data in this study.

Figure 3.1. Embedded concurrent mixed methods design for current study.



For this study, quantitative data were primarily used to assess the effectiveness of the intervention in helping students become better readers and writers; whereas qualitative data were used to better understand (a) the factors that enhance or inhibit writing workshop, (b) necessary modifications in light of these factors, (c) the instructional environment, and (d) unanticipated effects (see Table 3.1).

Table 3.1

Cross-match of Types of Data Used with Goal Targeted

Goal	Quantitative Data Used	Qualitative Data Used
Learn if using a writing workshop based on nonfiction effectively improves students' writing and reading	1. Stieglitz Informal Reading Inventory 2. Student Prompted Writing Samples	1. Student self-selected writing samples
Learn what factors enhance or	1. Heathington	1. Teacher reflective

inhibit the effectiveness, efficiency, and appeal of using writing workshop based on nonfiction to help students become better readers and writers.

Intermediate Attitude
Scale

- journal
2. Observation and field notes
3. Student interviews
4. Classroom artifacts

Discover how the writing workshop can be modified in light of these factors.

1. Heathington
Intermediate Attitude
Scale

1. Teacher reflective journal
2. Observation and field notes
3. Student interviews
4. Classroom artifacts

Examine how the instructional environment changes when writing workshop is implemented.

1. Teacher reflective journal
2. Observation and field notes
3. Student interviews and informal discussion
4. Classroom artifacts

Describe unanticipated effects that writing workshop produces.	1. Stieglitz Informal Reading Inventory	1. Teacher reflective journal
	2. Student Prompted Writing Samples	2. Observation and field notes
	3. Heathington Attitude Scale	3. Student interviews and informal discussion
		4. Classroom artifacts

Qualitative Data

Observations and field notes. At least once per week, I visited the classroom and observed writing and reading instruction. During that time, I took observational notes on instruction. Early observations focused on the environment of the classroom with questions such as: How does the teacher seem to view her work? What is the relationship between the teacher and her students? What kind of instructional and social climate does the teacher establish? Later observations focused more on instruction and students' work, looking for evidence to answer questions such as: What connections between reading and writing is the teacher making? What connections between reading and writing are the students making? How are the students behaving during writing time? What sorts of questions are the students asking? What kinds of books are students reading? Observations describing what was occurring in the class were transcribed as soon as possible after the visit and reflective notes on possible themes, emerging codes, and concerns were added (Creswell & Clark, 2007).

My role in the classroom was as a participant-observer (Creswell, 2003). I did not teach any lessons with the class; however, I regularly helped conference with students. Doing so gave me a better understanding of the class and the needs of the students. Reinking and Bradley (2008) note that “teachers greatly appreciate such participation if a researcher is supporting their work and if it contributes substantively to creating a positive professional bond between researcher and teacher” (p.79). Toward the end of the study, one student asked me if I would be teaching at the end of the year. I told him “No” and asked if he thought that is what I would be doing. He replied, “Isn’t that what student teachers usually do?” This view of me as a “student teacher” shows how the students accepted my presence in the classroom and understood the primary role of Ms. Geiger.

Informal discussions and interviews. Once a week, generally during her planning period, the teacher and I discussed her overall impressions of the class, the intervention, and future instruction. These conversations were via e-mail and in person and allowed me to better understand the teacher’s perspective on the progress of the students and what she believed might be interfering with that progress. We also used this time to talk about any alterations to instruction that needed to be made and why. Often our informal discussions allowed the teacher to talk through difficulties she was having or help her make plans for future lessons. These informal discussions were important to the study because they helped showcase factors that could affect the intervention that might otherwise have gone unnoticed. These discussions were also sometimes used as member checks (Creswell & Clark, 2007). I would present the teacher with my impressions and

notes on what was occurring to see if she was in agreement. Sometimes these member checks resulted in a shift of focus during my observations. For example, on October 7, 2008 I discussed with Ms. Geiger my observation that students did not seem to be revising their work. She replied, “This class seems to really like working on their drafts from start to finish without taking time to go back in the middle of their writing. I noticed in the last unit that many of the students do in fact revise on their own, but wait and do it once they have a ‘completed’ first draft.” After this conversation, I made sure to look for evidence of students revising after their first draft as this related to understanding students’ writing processes.

Teacher reflective journal. To better understand instructional decisions and have a sense of the teacher’s view of the writing workshop, I asked the teacher if she would keep a reflective journal. I left the format and timing of the journal up to the teacher, only asking if she could do at least one reflection per week. At first the teacher chose to write the journal by hand, but this turned out to be logistically difficult because it then required her to bring her journal to school each day that I visited so that I could transcribe it or for her to later retype the entry and then e-mail it to me. Consequently, the teacher then decided to type and e-mail the reflections to me. In January, the teacher began posting her entries on a private blog so that I would have immediate access to them and would be notified by the site when the blog was updated. Ms. Geiger posted three to four entries per week. These entries were also mined for recurring themes and emerging codes.

Classroom artifacts. Merriam (1998) explained that artifacts are often a good source of data because they are not dependent on the investigator like observations and interviewing nor are they intrusive. Artifacts for this study included teacher lesson plans, students' writing journals, and student published pieces. These were used for the purpose of triangulation (Merriam, 1998). If I noted something in my observations and the teacher also noted it in her reflection, I could go to the lesson plans or student journals to look for supporting evidence. These documents were also important in that they offered another window into the classroom. For example, the teacher mentioned that she did not believe that the students' prompted writing was always indicative of their capability. Thus, unprompted writing and student journals were important in assessing student writing ability.

Data analysis. Throughout the study, I collected and reviewed qualitative data frequently to find patterns and recurring categories. These patterns and themes helped form later categories used for analysis of the qualitative data that helped answer the final four questions from Reinking and Watkin's (2000) framework for conducting a formative experiment.

As data were collected and I began initial analysis, I noted several recurring themes and developed several broad categories that seemed to affect reading and writing in the classroom: (a) management, (b) teacher attitude, (c) student-teacher relationships, (d) instruction, (e) student resistance, (f) student attitude, and (g) mandates and requirements. These categories guided the focus of my observations and as I gathered data, categories were added, deleted or modified. For example, instruction became

“awareness” because it became clear that this category encompassed more than just instruction. Later student-teacher relationships was subsumed under awareness, as there was clearly a connection between the two.

I entered the qualitative data into a database using Weft QDA, a freeware version of qualitative data analysis software (Fenton, 2006). Using a constant comparative method, I coded the data broadly for events that enhanced or inhibited the intervention and modifications that were made in light of these, looking for commonalities and themes to emerge and using the themes delineated in the previous paragraph as a means of organizing my observations. Looking at the overlap across the data between these two analyses, I developed three broad categories of factors that enhanced or inhibited the intervention: teacher factors, student factors, and outside factors.

Quantitative Data

Student prompted writing samples. During the majority of writing workshop time, the teacher allowed students to choose their topics within her structural guidelines (e.g., genre or style). However, to standardize pre/post student samples and to reflect state testing, the teacher administered fall and spring expository prompts (see Appendix D). I selected the prompts from a list that the National Writing Project provided and gave the teacher standardized directions in administering the prompts. I asked her not to aid students in any way. Half of the students received prompt A and half received prompt B. During the second administration of the prompts, students received the prompt that they had not responded to in the fall. Each sample was scored using the National Writing Project’s Analytic Writing Continuum (see Appendix E), which

includes six specific attributes of writing: content, structure, stance, sentence fluency, diction, and conventions (see Table 3.2). These six traits have been identified as key characteristics of writing (Spandel, 2005). Ten percent of the samples were scored by another rater experienced in scoring writing but unfamiliar with the study. Interrater reliability, defined as both raters having identical scores or scores within one single score point of each other, was 95%. Fluency of writing was also assessed based on word count. Groups of letters with space on both sides, as well as numbers were counted as words. Legibility, spelling and usage were not considered in the word count. Whereas fluency does not always point to the overall quality of the writing, it does often indicate students comfort in writing and the processes of writing (Langer & Applebee, 1987).

Table 3.2

Descriptions and Questions Related to the Six Traits of the National Writing Project's Writing Continuum

Trait	Description	Possible questions asked to determine score
Content	Clear and consistent focus; well-developed ideas and content; ideas are purposeful, specific and creative	Does the piece have well-developed details or descriptions? Does the piece stay on topic?
Structure	Organization of piece enhances central idea; piece flows and uses smooth transitions	Does this piece have a compelling opening and an effective closure? Does the organization of the piece make sense and help the reader understand the central idea?

Stance	Demonstrates awareness of audience; consistent tone and style	Is the tone well-suited for the intended audience and purpose of the piece? Is the writer consistent in formality or informality?
Sentence Fluency	Phrasing is effective; piece has rhythm and cadence; sentences flow into one another	Did the writer vary sentence structure and length? Are run-ons and fragments intentional?
Diction	Consistently vivid and precise word choice; creative and accurate vocabulary; powerful and effective imagery	Can you hear the author's voice in the piece? Does the author use unusual or descriptive words?
Conventions	Correct spelling, usage, punctuation, capitalization, paragraphing	Is the piece generally error-free? Does the author use age-appropriate writing conventions?

Stieglitz Informal Reading Inventory. To collect information on reading ability, I used the Stieglitz Informal Reading Inventory (SIRI) (Stieglitz, 2002). Informal reading inventories (IRIs) are commonly used in assessing students' reading abilities and diagnosing difficulties (Walker, 2000). Typically, IRIs consist of graded word lists and passages (Paris & Carpenter, 2003). The word lists are generally used to establish an initial reading level that the scorer uses to determine the appropriate leveled passage. After reading the passages orally to determine fluency, students answer questions to help assess comprehension (Nilsson, 2008). The SIRI is a modified and expanded version of a

traditional IRI. The SIRI was chosen primarily because it includes expository passages rather than only narrative ones so that students' comprehension of nonfiction text could be assessed. Because this study was focused on nonfiction, only the expository passages were used. The authors of the SIRI report 86% point-to-point agreement between raters on the expository passage (Stieglitz, 2002).

Heathington Intermediate Attitude Scale. I employed the Heathington (1976) Intermediate Attitude Scale as a means of measuring students' attitude toward reading. The survey consists of 24 questions on a Likert scale that give feedback on various areas of reading such as free reading, reading at home, and reading at the library. The range of possible scores is from 120 (5 x 24) to 24 (1 x 24). Scores of 48 or below represent negative attitudes and scores of 96 or above represent positive attitudes. Scores between 48 and 96 are considered neutral and generally represent mixed feelings about attitude. (Heathington, 1976). Parker and Paradis (1986) established the reliability of the Heathington Intermediate Attitude Scale using a test-retest method, $r = .87$.

Data analysis. Quantitative data were analyzed through comparison of pre- and post-intervention data. Consistent with a mixed-methods approach, pre- and post-intervention quantitative comparisons were not conducted to establish causal relationships; instead, I used quantitative analysis to complement the qualitative data. Using a paired samples t-test, I analyzed the scores on the SIRI and prompted writing sample before and after the intervention phase as one indicator of children's growth in reading and writing.

Method

Research Site

This investigation was conducted in a fourth-grade classroom at a rural school of approximately 670 students in a large southeastern school district. The administration at the school had indicated a continued interest in improving its writing instruction and the principal was generally supportive of her teachers using innovative methods of instruction. Based on information from the school's website, 54% of its students were on free or reduced lunch plans at the time of the study. Additionally, approximately 74% of the school's population was white, 22% African-American, 3% Hispanic, and 1% Asian/Pacific Islander. Fifty-four percent of students in grades three through five scored proficient or above on the English-language arts portion of the state standardized test in 2008. I was familiar with the school before beginning the study and had an insider perspective as a former teacher at the school one year prior to the study.

Participants

The teacher, Ms. Geiger (the teacher's and all students' names are pseudonyms), was selected for various reasons. First, she had been through a school-wide, year-long professional development about how to teach writing using a writing workshop format. That experience was important because research shows that pre-service teachers receive little instruction in how to teach writing (Pressley, Mohan, Fingeret, Reffitt, & Raphael-Bogaert, 2007) and that training teachers in writing instruction increases teacher effectiveness (Graham & Perin, 2007); therefore, I wanted a teacher with some training in writing instruction. Although, Ms. Geiger participated in professional development in

using writing workshop, she did not consider herself an expert, and maintained that she still believed she had much to learn. Ms. Geiger explained that her first year with writing workshop had been particularly difficult, especially with management. She believed that she had a strong background in writing but lacked confidence in her ability to teach writing well. Additionally, the teacher was recommended by the principal as someone who would be willing to participate in this study. Having worked extensively with Ms. Geiger previously as her cooperating teaching for her practicum and as a colleague, I recognized her enthusiasm for trying new methods with her students and believed she would willingly collaborate. Ms. Geiger was in her third year of teaching, all at the same school and at the same grade level.

Twenty-two students comprised the fourth-grade classroom at the beginning of the school year, thirteen males and nine females. Fourteen students were classified as Caucasian, five students as African-American, and three as Hispanic. Ten students were on free or reduced lunch. Permission forms were sent home to all students' parents in a process approved by the sponsoring university's Institutional Review Board (IRB); nineteen students returned the form. One of these students was in special education resource and did not complete the study because he missed most of writing workshop each day. Thus, a total of eighteen children with permission forms participated in the data collection, although all students participated in the intervention as it was part of daily instruction.

Based on pre-intervention data and teacher opinion, which was supported by standardized test scores, I chose six students from a range of reading abilities and with

varied interest in writing as focal students for in-depth observation and data collection (see Table 3.3). I chose not to use students who were identified as learning disabled as these focal students; however, those students who participated in writing workshop were included in the data collection. Table 3.3 describes the six focal students as they were during the collection of baseline data at the beginning of the school year.

Table 3.3

Description of Focal Students

Student	Gender	Ethnicity	Reading Ability	Writing Affect	Other information
Lamar	Male	Caucasian	Below-average	Liked	Positive attitude, enthusiastic
Logan	Male	African-American	Below-average	Disliked	Often did not turn in pieces, off-task during workshop, generally not a behavior problem
Anna	Female	Caucasian	Average	Liked	Receptive to suggestions, positive attitude, rarely shared writing or gave comments
Ricky	Male	Caucasian	Average	Disliked	Often stated aversion to writing, easily distracted

Charlotte	Female	Hispanic	Above-average	Liked	Quiet, preferred not to share writing, easily incorporated strategies
Isaac	Male	African-American	Above-average	Disliked	Rarely turned in pieces, often cried to avoid writing

Procedure

The procedures for this study occurred in four phases: setting up the study and the intervention, collecting baseline data, implementing the intervention with on-going data collection, and gathering post-intervention data.

Phase One: Setting Up the Study and the Intervention

The first phase began in the 2007-2008 school year when I met with the principal and teacher to discuss the study and get permission to conduct it. Later, I met again with the teacher to further discuss details of the study. During our discussions, I briefed the teacher on formative experiments and answered any questions. In addition, we discussed possible professional books that would be helpful in understanding how to conduct the intervention, including Ray's (2006a) *Study Driven*. We met again the week prior to the start of the 2008-2009 school year and worked out a tentative timeline for the intervention and units of study. After receiving Institutional Review Board (IRB) approval, the teacher distributed parental consent forms.

Overview of the intervention. The intervention in this study was a nonfiction-focused writing workshop. This workshop included many of the traditional elements of a

writing workshop but all of the instruction centered on nonfiction. That is, the teacher used nonfiction texts as models throughout her lessons and had students writing in multiple nonfiction genres such as feature articles and research essays.

Components of writing workshop. A typical writing workshop begins with a ten to fifteen minute mini-lesson, sometimes referred to as a craft lesson. Mini-lessons are intentionally brief and often focus on a particular aspect of writing based on student needs. For example, if student writing lacks conclusions, the teacher may focus one or several mini-lessons on writing conclusions. Grammar instruction is also part of these mini-lessons. Additionally, the teacher may focus on broad topics in writing (e.g., the difference between revising and editing) or writing workshop procedures (e.g., what to do when you finish a piece). Mini-lessons are often taught to the entire class but may also be taught in small groups or individually (Fletcher & Portalupi, 2001b).

After the mini-lesson, students are given an extended time, around twenty to forty minutes, to write on topics of their choosing. Choice of topics, rather than prompted writing, is critical to writing workshop. Allowing students to have a say in what they are writing gives them a sense of ownership in their work and may help them develop into better writers (Atwell, 1987; Calkins, 1986). Teachers may structure students' choice in topics into units of study, such as narratives or poetry. In such units of study, the students may still decide what to write about but the possibilities are narrowed to a particular type of writing (Ray, 2006). During this time students may work together on their writing and are encouraged to help one another. As students are writing, the teacher conducts individual conferences. During these brief student-led conferences, the teacher assists the

students with their writing. The intent is not to use this time to correct student writing but rather to build on the work the student has done and help students become increasingly independent in their writing. These conferences can be especially beneficial for the teacher's understanding of students' writing progress because in writing workshop students are all at different points in their writing. For example, some may be just beginning a draft while others are publishing a piece. The teacher does not determine the pace of students' writing because students engage in their own writing processes (Ray, 2001).

While varied in format, writing workshop ends with students sharing their writing. For example, a few students may share individually with the whole class, students may share in small groups or with a partner, or all students may be asked to share a small portion with the class. Teachers may use this time for students to give each other feedback on their writing (Fletcher & Portalupi, 2001b).

Initial implementation of the intervention. Ms. Geiger had implemented a writing workshop during the two years prior to the study so we were able to quickly agree upon some essential components of the intervention that are often found in writing workshop: mini-lessons based on students' needs, daily writing time that focused on process rather than only product, student choice in topics, collaborative writing, and multiple readings' of students' own works. Because Ms. Geiger had not previously used writing workshop to focus on nonfiction, we spent much more time planning for and negotiating this portion of the intervention, as well as the logistics of conducting the intervention. Ms. Geiger's first concern was with the schedule for the intervention. It was important to her

to begin writing workshop immediately rather than wait for me to collect baseline data. We decided that during the pre-intervention stage, Ms. Geiger would focus on procedural aspects of writing workshop, such as the rules during writing time, and allow the students complete freedom in their topics instead of requiring nonfiction. Then she would shift to only working on nonfiction as the intervention began. Ms. Geiger and I agreed that the intervention would include multiple types of nonfiction that she would teach and we negotiated these types. I suggested several including memoirs, editorials, advice columns, research essays and feature articles. Consulting her district requirements on genres and her preliminary plans for the year, Ms. Geiger believed that memoirs, research essays, and feature articles would be a good fit. She thought advice columns were too narrow and instead wanted to teach persuasive writing. She also needed to teach how-to writing and letter writing to fulfill district requirements, so we added those to the intervention.

After agreeing that the intervention would consist of units of study on memoirs, persuasive writing, how-to writing, letters, feature articles, and research essays, Ms. Geiger and I discussed how to conduct these units. We decided that I would support Ms. Geiger in planning units of study throughout the year. As it turned out, my role in planning was minimal. I generally would talk with Ms. Geiger prior to a particular unit and help her think through particular aspects and develop a broad plan. For example, before the memoir unit I helped Ms. Geiger determine how she would introduce the unit. To stress the reading-writing connection, she would bring in multiple examples of

memoirs for students to read and discern their common characteristics. I left the day-to-day planning of mini-lessons to Ms. Geiger.

Ms. Geiger and I talked at length about the use of mentor texts during writing workshop. I encourage her to explicitly and extensively connect reading and writing as often as possible, as this was a critical piece to the intervention. We agreed that she would use models in as many mini-lessons and conferences as possible. I would also serve as a resource for finding appropriate models whenever necessary. I did not tell Ms. Geiger specifically *how* to use these model texts except to request that she directly connect the texts to the students' writing. For example, when the students began their unit on feature articles, they spent extended time looking at the structure of feature articles in children's magazines. Ms. Geiger then showed students how to incorporate this structure into their own feature articles. I believed it was important for Ms. Geiger to have maximum control over the writing workshop, so I interfered as little as possible, serving instead as a support role for her planning and implementation.

Phase Two: Pre-Intervention Data Collection

The primary purposes of the second phase were to generate a thick description of the classroom environment and to collect baseline data to understand where participants were in relation to the pedagogical goals prior to the intervention (Reinking & Bradley, 2008). I began observing Ms. Geiger's class on the fourth day of the school year. She started setting up her writing workshop immediately but mostly focused on procedures and general writing process during her mini-lessons. Her teaching did not yet focus on nonfiction, which was an essential component of the intervention. I usually visited in the

mornings and observed writing and reading for about three hours at least once per week. Initiating my visits at the start of the school year seemed to help the students become comfortable with my presence and helped me to establish a rapport with them. Also, many students knew me previously as a former teacher at the school and there were a few whose siblings I had taught.

To help understand the classroom, I focused some of my field notes on the environment that the teacher created. For example, in my field notes on August 22, 2008, I wrote:

The classroom is bright but calm. There are several baskets of books labeled by genre, as well as a book stand with several more books on it. The books are from various levels. The teacher also has a bookcase in the back of the room that she tells me is filled with personal books that she will allow students to look at and use but are “special.” She uses them for particular purposes in teaching.

Field notes also focused on student-to-student and teacher-student interactions and student attitudes toward reading and writing.

During phase two I gathered additional data beyond observations. I administered the Stieglitz Informal Reading Inventories (SIRI) to the students to determine frustration, instructional, and independent reading levels. These inventories were done individually and took about fifteen to twenty minutes per child. I assessed the children after their writing mini-lesson to minimize disruption to their instruction. Ms. Geiger also helped gather some of the initial data. During the first week of school, she utilized an interest inventory to understand the students’ reading and writing habits. She administered the

first set of writing prompts during the second week of school and gave the Heathington Intermediate Attitude Scale the following week. She also began her reflective journal during this time, which enabled me to understand her views about writing workshop and her students. Sometimes it was evident that she was not happy with the workshop, as in the following excerpt:

This year I decided not to have my kids do a short piece to publish within the first couple weeks of school. Instead, we jumped right into a long (about a month) narrative unit. I wish I hadn't done it this way. I have a few students right now (C., T., and A.) who are extremely anxious to publish. They want to see something finished. I'm afraid that as we progress further into this unit that this will become more common. Having done a short piece before this may have helped with this anxiousness (Teacher reflective journal, September 5, 2008).

After seven weeks of gathering baseline data, Ms. Geiger and I discussed the best way to begin implementing the intervention. We decided that memoirs would be an easier transition into nonfiction reading and writing rather than feature articles, as many of the students had previously written narratives.

Phase Three: Implementing the Intervention and On-going Data Collection

Ms. Geiger began the intervention during the first week of October and continued through the second week of February. During this time, I continued my observations and visited the classroom for approximately 3 hours each week for a total of 51 hours. The teacher also continued her reflective journal during the implementation phase. As mentioned earlier, Ms. Geiger began her writing workshop the first week of school but

focused primarily on procedures and writing process. The intervention shifted the focus of her workshop to nonfiction writing with a strong emphasis on the reading and writing connection. Students always had a choice in their topic, but Ms. Geiger structured their writing around particular nonfiction genres such as persuasive letters and research articles. In her mini-lessons, she connected what the students were writing to what she or the students were reading. For example, the first unit of the intervention was memoir. To begin that unit, Ms. Geiger found multiple memoirs that she had students read during their reading block and note their qualities and similarities. She explained to the students that they were to formulate a definition of memoir and brainstorm ideas for their own memoir. Together the class created a chart to organize the characteristics of memoir, including that memoirs were a type of nonfiction. During writing time, Ms. Geiger used the short story “Eleven” (Cisneros, 1992) to hold a discussion about memoir. Students began working on their own memoirs. Ms. Geiger noted that several students spent a day or two reading memoirs and beginning several different memoirs before settling on an idea. In her reflection she states, “Some were still reading books, searching for their perfect idea. I told the class that my expectation was that they would all be in the beginning stages of drafting an idea within the next day or two” (October 6, 2008). The unit on memoirs lasted approximately three weeks. During that time mini-lessons focused primarily on content of memoirs, leads, and adding details to writing. In the majority of these lessons, the teacher used texts to model what she hoped the students would do, thus continuing the focus on the reading-writing connection, as in the following excerpt from the teacher’s reflective journal:

I read *When I was Young in the Mountains* to the students at the beginning of class. We talked about how Cynthia Rylant told her story in a number of snapshot moments, and even had a repeating line, but that all of her moments came together and were related. As a class, we talked about how it is important to pick one topic and to stick with that topic. Anything that we have written that might be considered unrelated should be set aside and would most likely make a great second or third memoir (October 9, 2008).

In addition, Ms. Geiger often referenced texts to use in her conferences with students to help them with specific issues that they were having, as in the following example:

Oscar has a great story about him and his sister. He based it on *The Pain and the Great One*. However, at about the seventh chapter, he says that it takes a weird turn. He starts writing about his karma power. It gets rather unrealistic. We discussed how he could really turn this into two separate stories. I had him go back and reread the first part of his memoir and referred back to *The Pain in the Great One*. We discussed whether or not what he had done really fit with what he was currently writing. He agreed that in fact it did not. I think he got really excited about writing about himself with special powers and veered down that road. We went back and talked about how he could put a good ending on the story about him and his sister and how he could take off the part about him with super powers and start that as a whole new story (Teacher reflective journal, October 16, 2008).

The main point of the intervention was to stress the connection between reading and writing as the students worked on nonfiction in the writing workshop. The teacher continued this tact throughout the intervention. Students worked on the following types of nonfiction writing in addition to their memoir: feature article, expository, persuasive, friendly letter and research article.

Ms. Geiger and I met for about 30 to 45 minutes each week to discuss what was working with the intervention and what was not and how we might better help reach the pedagogical goals of the formative experiment. For example, during one of these discussions in early November, Ms. Geiger expressed concern over the way students were organizing their feature articles despite the many examples she had shown them and her mini-lessons on section headings. The problem seemed to relate with the way students were collecting their information for their articles. I suggested that Ms. Geiger try a graphic organizer to help students gather their information that directly connected to their section headings. This seemed to help students make a better connection between what they were reading for their feature articles and how they were writing their feature articles. Sometimes Ms. Geiger's schedule did not allow time for us to have a discussion. In the weeks between our face-to-face meetings we continued to communicate through e-mail about what was happening in the classroom.

During the intervention phase, I also regularly reviewed my observational field notes and the teacher's reflective journal to look for factors that enhanced or inhibited the intervention. Sometimes inhibiting factors came from outside of the classroom and could only be adjusted to but not changed. An example of this was the increased emphasis on

each teacher in Ms. Geiger's grade level being more consistent with each other in what they were teaching and when. This was difficult as not all of the teachers on the grade level were interested in implementing a nonfiction-focused writing workshop or in reading texts outside of the basal. Also, writing workshop is very individualized and some classes may progress more quickly or slowly than others in their units of study. Ms. Geiger had to work with her grade level to compromise on this consistency. They would each teach the same types of writing but not necessarily in the same way or at the same pace.

Phase Four: Gathering Post-Intervention Data

The final phase of gathering post-intervention data began during mid-February. When I originally met with Ms. Geiger during phase one, we planned for the intervention to continue through March. However, the state writing test was moved from May to mid-March, and Ms. Geiger believed that she needed the time before the test to do a unit on prompt writing, as well as work on fiction. I agreed with Ms. Geiger and we decided to only continue the intervention through mid-February. In the week after the intervention ended, Ms. Geiger administered the second writing prompt to the students. It took students two to three writing periods to complete this prompt. During this same week, the teacher also re-administered the Heathington Intermediate Attitude Scale. The following week I interviewed the six focal students. Each interview lasted eight to fourteen minutes. I transcribed these interviews the following week. During March, I re-administered the SIRI to each student to obtain their final reading levels. In addition, I formally interviewed as well as informally discussed with the teacher the intervention and

what the data seemed to be showing. I continued observing in the classroom through mid-May.

Summary

Over the course of 35 weeks I sought to better understand what happens in a nonfiction-focused writing workshop through conducting a formative experiment. Workshops vary from school to school and class to class and multiple factors can enhance or inhibit effectiveness. Quantitative and qualitative data were collected in four phases to try to better understand these factors and to modify the intervention as needed in hopes of enhancing student learning during writing workshop and to guide future research.

CHAPTER 4

RESULTS

February 19, 2009, Teacher reflective journal:

I have been spending quite a bit of time reading the final drafts that I have gotten for the research articles. I am very pleased with how they turned out! I have gotten about half of them in so far. I don't think I have ever had a class that has done so well with organization in their writing. There is not one piece that I have read since the first couple of days of this particular assignment that does not make any sense. Each student has some part of their writing that they have really become drastically better with throughout the year. For example, Lamar's pieces used to have horrible mistakes in grammar and spelling. This piece still has some mistakes but it is nothing to the extent that it was before. I see him constantly with a dictionary and using the spelling strategies that we have talked about to really make an effort to improve on this. While I was reviewing Nick's IEP the other day, I noticed that one of his struggles and weaknesses from last year was putting together a group of sentences that make sense. I can't believe how far he has come! Not only is he writing fluent paragraphs that are well organized, but he is writing several of them in one piece! He truly understands section headings and is even able to include an effective introduction and conclusion! I am also very pleased with Jonathan's piece. While he spent a lot of time at his desk wasting time and staring off into space, his final product is pretty good. His pieces, even a couple of months ago, were very short and basic. He lacked details

and voice in his writing. This piece shows excellent organization and elaboration on his main ideas.

This excerpt from Ms. Geiger's reflective journal demonstrates the growth that happened over the course of a school year when using a nonfiction-focused writing workshop and exemplifies the importance of teacher awareness and attitude. What this entry does not show is the work that it took to get to this point and the difficulties that were encountered along the way. The data presented in this chapter tell a more complete story of the eight month journey through a nonfiction writing workshop, including the pitfalls and essential elements, as well as thoroughly describing the classroom in order to have a clear understanding of the context of the intervention.

Overview

The purpose of this study was to determine how a nonfiction-focused writing workshop can be implemented in a fourth-grade classroom to improve students' reading and writing abilities and attitudes. A major part of the intervention was emphasizing the reading-writing connection through extensively and explicitly using literary models from multiple nonfiction genres to teach students how to read and write texts. To understand what happened in the classroom, it is important to examine what aspects advanced or hindered the intervention. Thus, in this chapter, I address questions 3 and 4 from Reinking and Watkins' (2000) framework, which were presented in Chapter 1, specifically the following: (a) As the intervention is implemented, what factors enhance or inhibit its effectiveness in achieving the pedagogical goal? and (b) How can the intervention and its implementation be modified to achieve more effectively the

pedagogical goal? Also, I report data that address the extent to which the intervention advanced the pedagogical goal.

I begin this chapter by describing the environment in which this study was conducted, including the school, the teacher and grade level, and the students. Next, I discuss the factors that enhanced or inhibited the intervention and any modifications that were made to the intervention. Enhancing and inhibiting factors fall into three overarching categories: teacher factors, student factors, and outside factors. Finally, I present evidence of progress toward achieving the pedagogical goal.

Context

During the seven weeks prior to the intervention, I collected baseline data to help describe the context of the classroom, as well as determine where the students were in their reading and writing abilities and their reading attitudes.

School

Pineville Elementary School (pseudonym) was one of several public schools in a large Southeastern school district. Situated in a rural but expanding part of the county, Pineville's website reported that it served approximately 670 students in grades K-4 through fifth. At the time of the study, 54% of students at PES were on free or reduced lunch, about 18% higher than the overall number for the district. Seventy-four percent of the student body was white, 22% African-American, 3% Hispanic, and 1% Asian/Pacific Islander. Pineville was rated average on its 2007 school report card and had been for the past five years. Fifty-four percent of students in grades third through fifth scored proficient or above on the English-language arts portion of the state standardized test in

2008 with 21% scoring below basic. About 8% of the school's population was eligible for the gifted and talented program and 9% was classified as having a disability other than speech. The school had an instructional coach, a part-time science lab instructor, an ESOL instructor who came once per week, and a part-time reading interventionist for first-graders.

Pineville had exhibited a strong interest in writing. The school applied for and received a prestigious state writing award in 2003. In addition, PES partnered with its local writing project for professional development during the 2007-2008 school year. At the time of the study, the focus of the school had shifted to become more general, concentrating on curriculum mapping and differentiated instruction.

The administration at Pineville required teachers at each grade level to plan their lessons together to ensure consistency across classrooms. The schedule allowed each grade level to have a daily common planning period. It was expected that at least two of these periods per week would be used for the teachers to meet, including one meeting with the school's instructional coach. In most grade levels, each teacher was designated as the planner of a specific subject. The teachers then shared their plans with one another and modified accordingly. The school adhered to a district-mandated language arts program for elementary classrooms.

Teacher and Grade Level

Ms. Geiger was in her third year of teaching, all in fourth-grade at Pineville. She had been recently accepted into a master's degree program and at the time of the study had done some graduate work, including a course on reading in the content areas. Ms.

Geiger was interested in literacy and often read professional texts related to reading and writing. She was dedicated to improving her teaching and continued to expand on her literacy knowledge base. During the summer of 2008, Ms. Geiger participated in the local writing project site's summer institute. Despite her strong knowledge base, Ms. Geiger was still facing many of the struggles of a beginning teacher, including management and how to implement the strategies that she had been studying.

Ms. Geiger was one of five teachers at her grade level. Only one of the teachers had been teaching fourth-grade longer than the three years that Ms. Geiger had and no one on the grade level had more than seven years of total teaching experience. Like other grade levels in the school, the fourth-grade divided up the planning so that each teacher was responsible for planning one subject. Ms. Geiger planned writing (see Appendix F for an example writing plan). Although she liked that everyone shared their plans and understood that the school would like consistency among classrooms, Ms. Geiger rarely implemented the plans as someone else had written them. Rather, she modified them to fit both her teaching style and her students' needs. In addition, Ms. Geiger believed it was particularly difficult to plan writing for the grade level as her plans were based specifically on what she observed in her students' writing. The effect that grade level planning had on the intervention will be discussed later in this chapter within outside factors that inhibited the intervention.

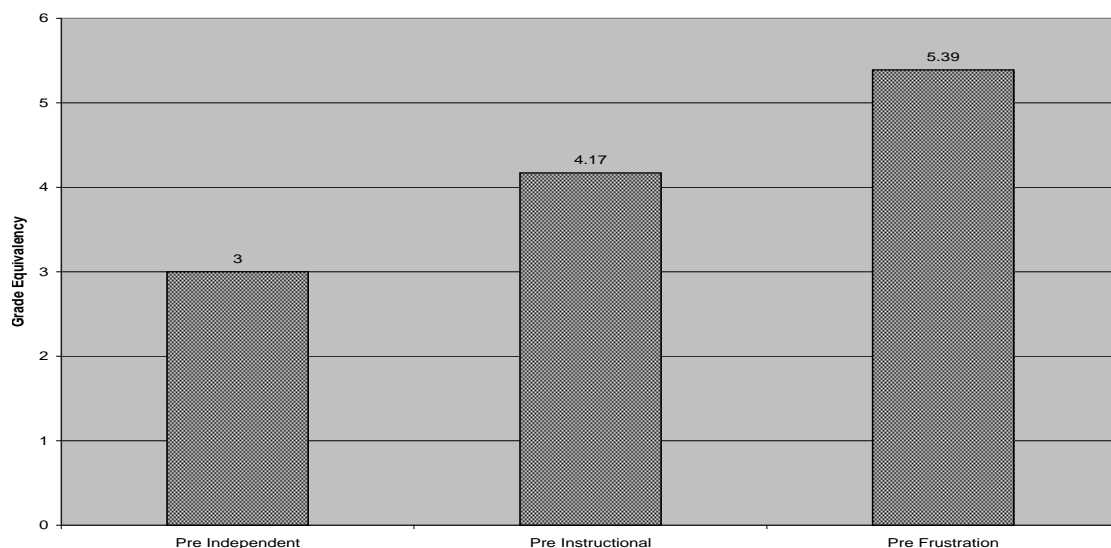
Students

Twenty-two students comprised Ms. Geiger's class, nine girls and thirteen boys, of which eighteen attended Pineville last year. Fourteen students were classified as

Caucasian, five students as African-American, and three as Hispanic. Of these students, three boys and one girl received services for English language arts through inclusion and one of the boys was also pulled out each morning for four days of help in reading and one day of math. During the school year, one student moved and another student joined the classroom. The student who came into the class also received services for reading through inclusion and for math through a pull-out program in the afternoon. He also attended one period of speech per week. Three of Ms. Geiger's students attended the gifted program, leaving the class one morning per week for about three hours.

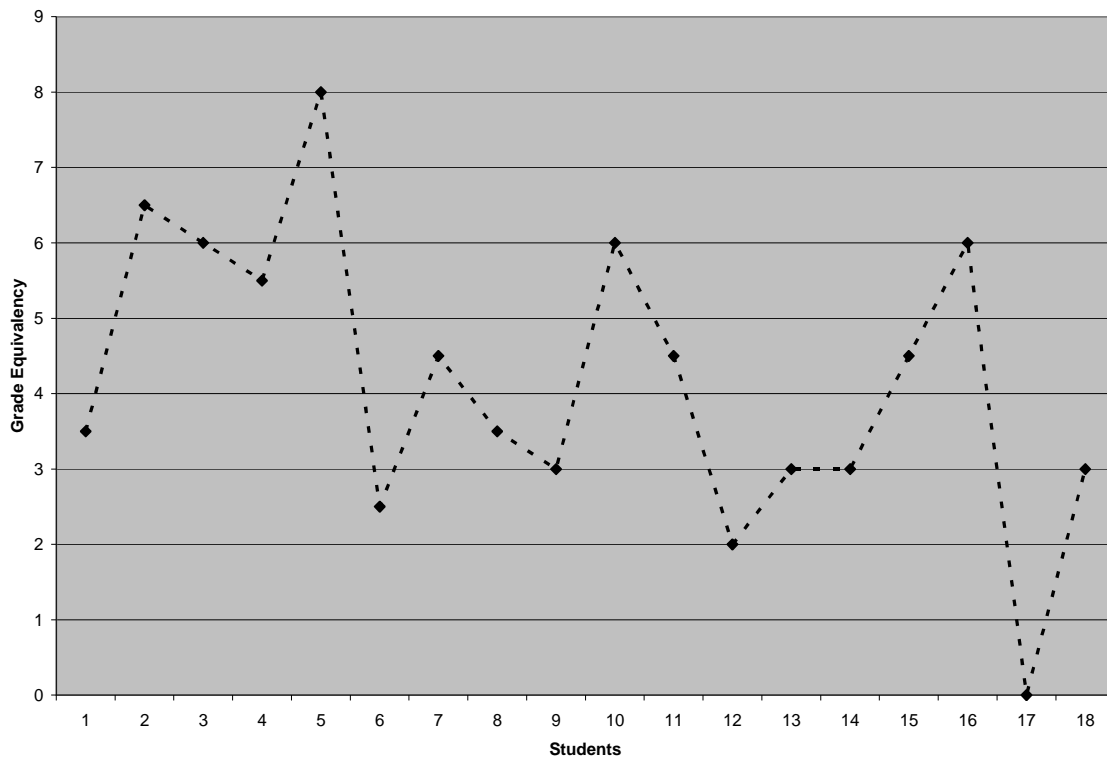
According to the Stieglitz Informal Reading Inventories (SIRI) that I administered prior to the intervention, the mean instructional reading level of the class was 4.2, or approximately fourth-grade. Figure 4.1 gives a perspective of where the average reading level of students fell for both word recognition and comprehension.

Figure 4.1. Mean reading levels on Stieglitz Informal Reading Inventory prior to intervention.



Individual instructional reading levels in Ms. Geiger’s class ranged from pre-primer to eighth-grade (see Figure 4.2). Material that is on a child’s instructional reading level would be too difficult for the child to read alone but possible with the assistance or guidance of the teacher or a more-able peer. For material to be considered at the instructional level, a child would be able to recognize about 95% of the words in a passage and answer comprehension questions with about 75% accuracy on the SIRI (Stieglitz, 2002).

Figure 4.2. Instructional reading levels on Stieglitz Informal Reading Inventory prior to intervention.



In addition to assessing students' instructional levels, the SIRI helps determine independent and frustration reading levels. A child's independent level is the level at which material can be read with little to no difficulty, meaning words in the passage are recognized 99% of the time and the information can be retold with 90% accuracy. The frustration level is the level at which material is too difficult to read, even with assistance. Word recognition at this level is below 90% and comprehension is less than 50% (Stieglitz, 2002). In Ms. Geiger's class, the mean independent reading level was 3.0, or about third-grade, and the mean frustration level was 5.39, or about fifth-grade (see Figure 4.1). Independent reading levels ranged from pre-primer to seventh-grade (see Figure 4.3) and frustration levels ranged from first grade to ninth-grade (see Figure 4.4).

Figure 4.3. Independent reading levels on Stieglitz Informal Reading Inventory prior to intervention

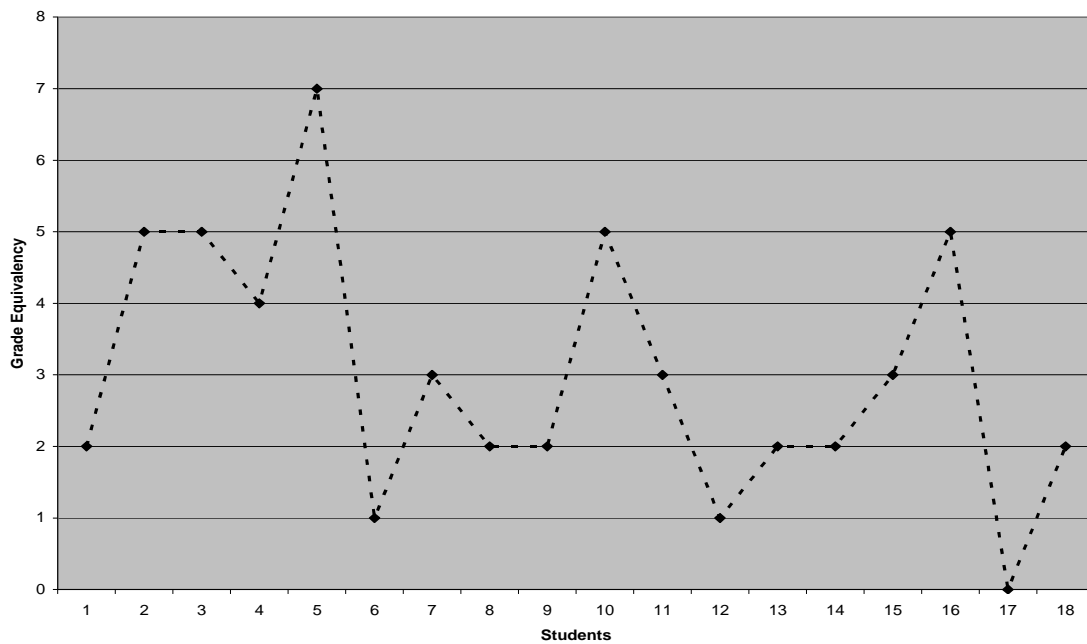
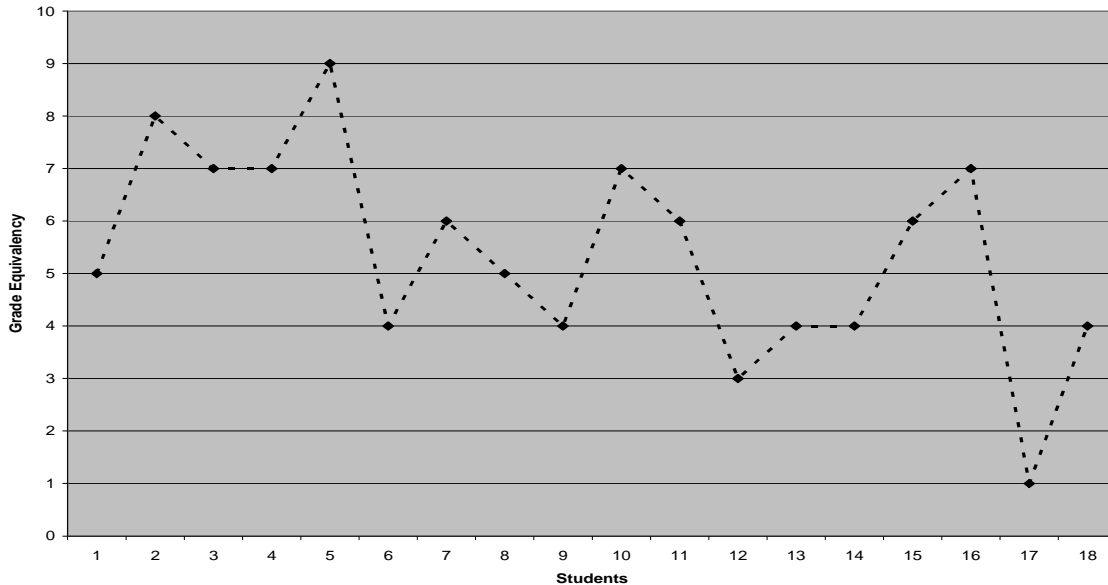


Figure 4.4. Frustration reading levels on Stieglitz Informal Reading Inventory prior to intervention.



Using the Heathington Intermediate Attitude Scale, the students rated their agreement with statements about reading. Students' answers on each statement were assigned a value of one to five, with five indicating a positive attitude. Possible overall scores range from 24 to 120 with scores of 48 or below representing negative attitudes and scores of 96 or above representing positive attitudes. Scores between 48 and 96 are considered neutral and generally represent mixed feelings about attitude. (Heathington, 1976). The mean score for Ms. Geiger's class on the Heathington Intermediate Attitude Scale was 71.26 and individual scores ranged from 29 to 113 with four students expressing a negative attitude, ten a neutral attitude and four a positive attitude. When broken down into individual subscales, students seemed to have the most positive feelings about free reading with a mean score of 3.63 and the most negative feelings about other recreational reading with a mean score of 2.19 (see Table 4.1).

Table 4.1

Means and Standard Deviations for Students' Scores on the Heathington Intermediate Attitude Scale Prior to Intervention

Area	Mean	Standard Deviation
Total Attitude	73.0	21.47
Free Reading	3.44	1.11
Organized Reading	2.76	1.11
Library Reading	3.35	.848
Home Reading	2.88	1.17
Other Recreational Reading	2.39	1.44
General Reading	2.96	1.096

During the first week of school, the teacher administered a writing prompt. Each sample was scored using the National Writing Project's Analytic Writing Continuum, which includes six specific attributes of writing: content, structure, stance, sentence fluency, diction, and conventions. Students' overall mean scores on each of these attributes ranged from 2.75 (structure) to 3.64 (conventions) (see Figure 4.5). Individually, scores ranged from two to five (see Figures 4.6 to 4.11). Individual word count on student writing prompts ranged from 43 to 160 (see Figure 4.12).

Figure 4.5. Mean scores on students' prompted writing samples prior to intervention.

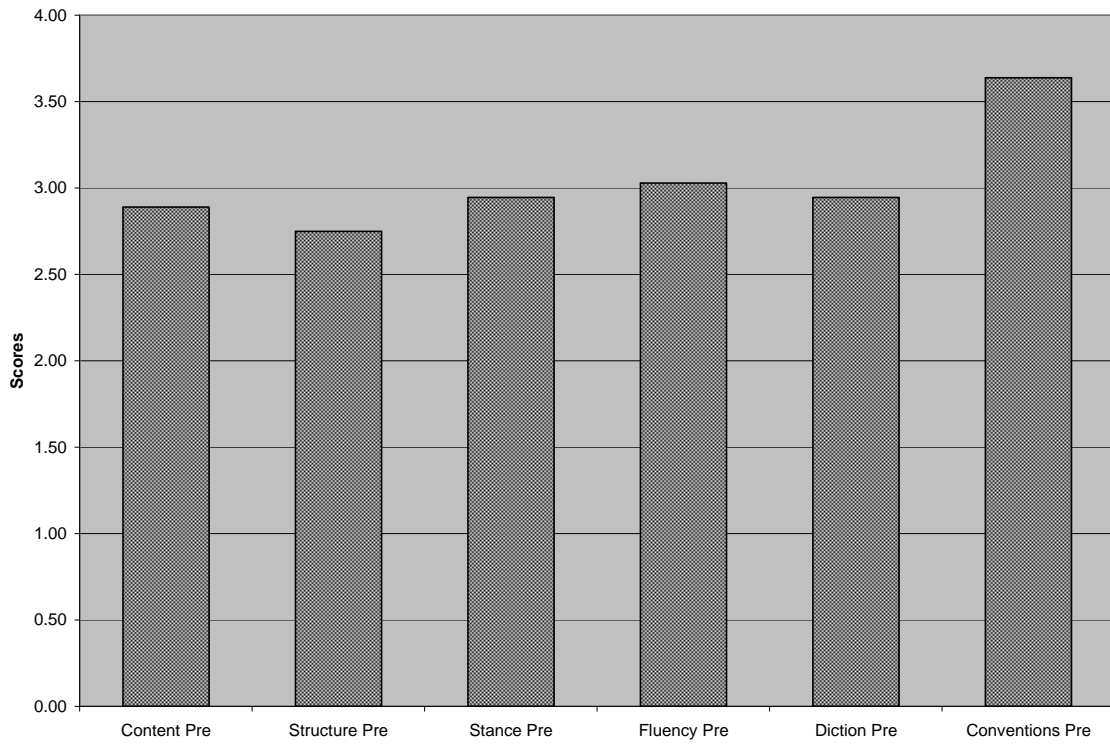


Figure 4.6. Content scores on students' prompted writing samples prior to intervention.

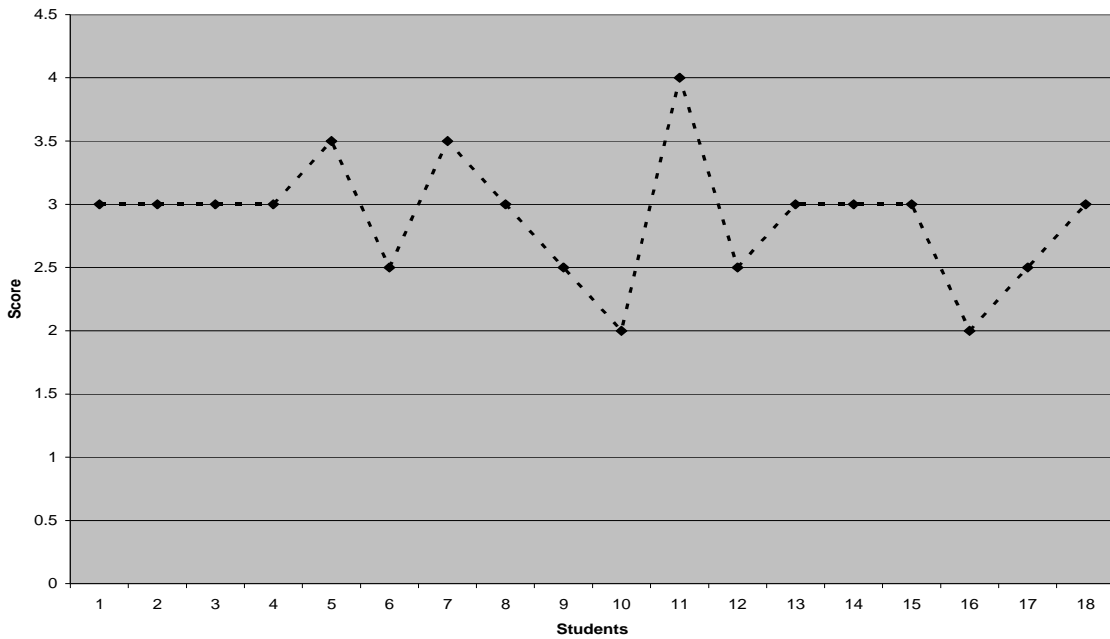


Figure 4.7. Structure scores on students' prompted writing samples prior to intervention.

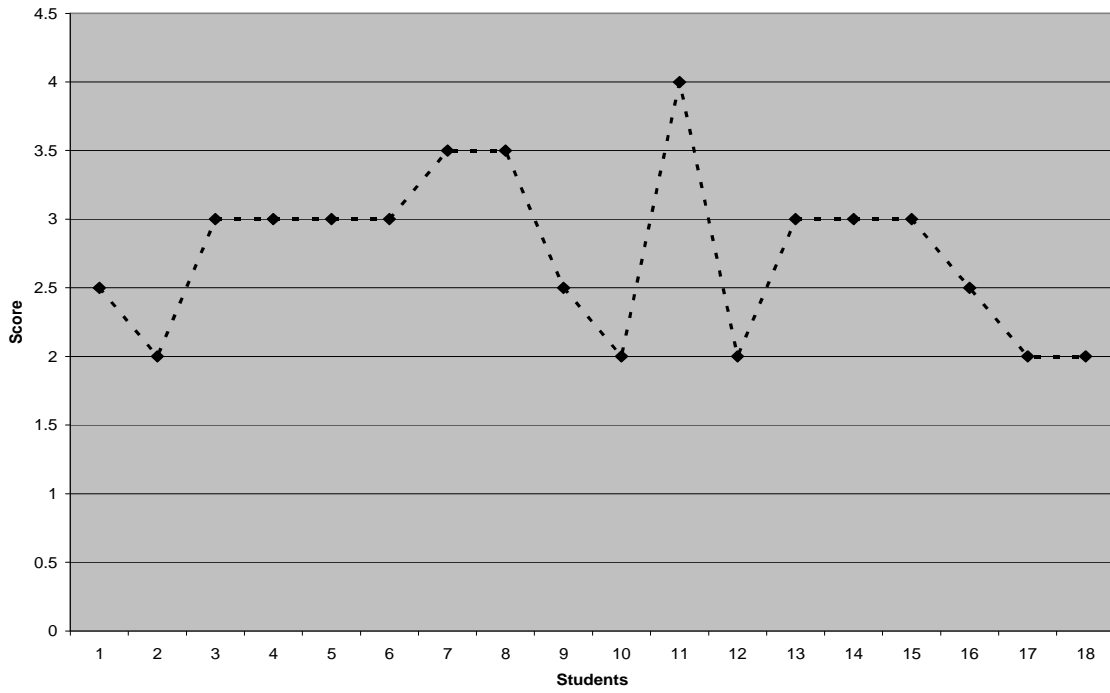


Figure 4.8. Stance scores on students' prompted writing samples prior to intervention.

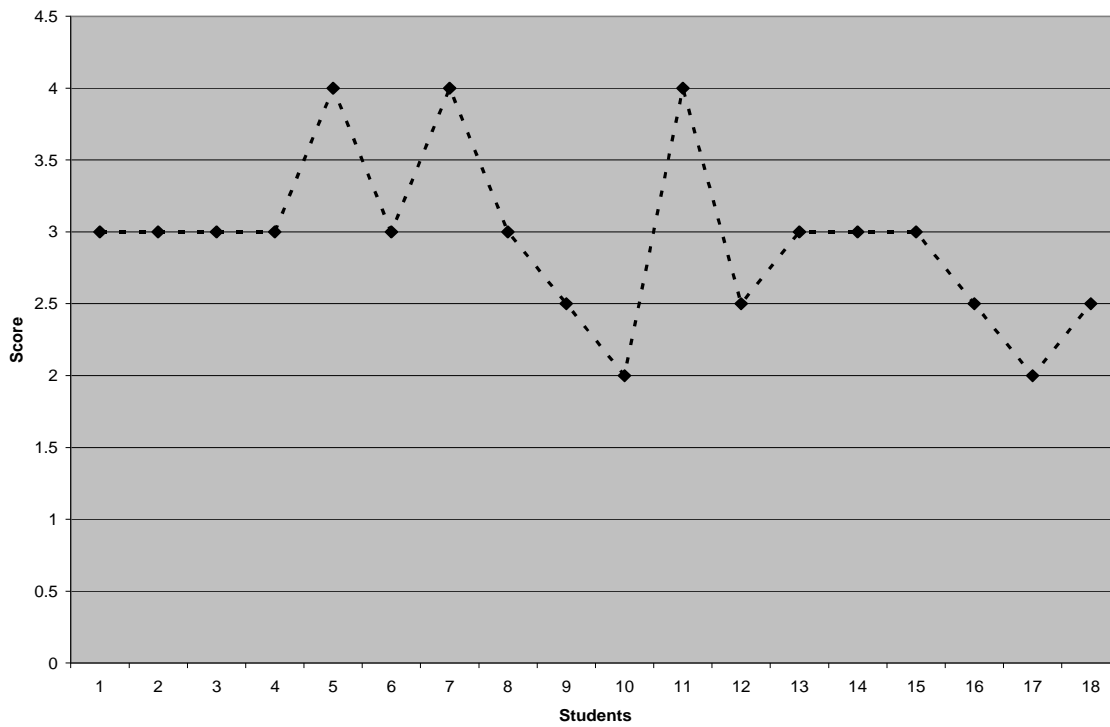


Figure 4.9. Fluency scores on students' prompted writing samples prior to intervention.

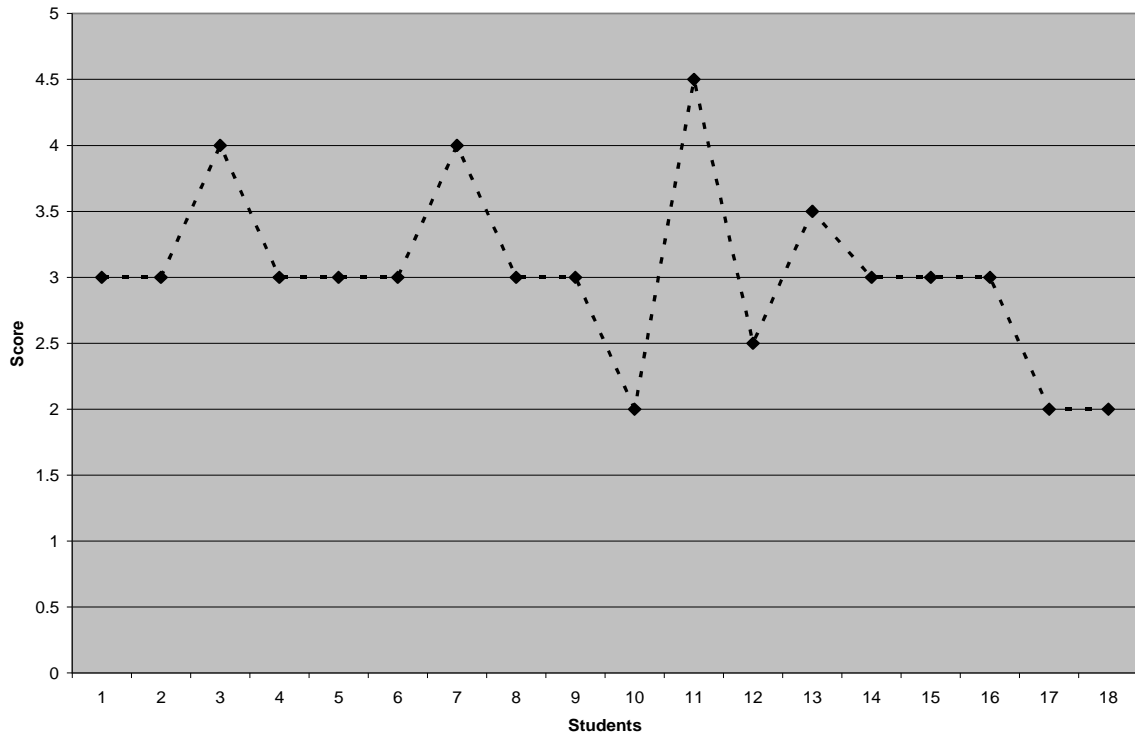


Figure 4.10. Diction scores on students' prompted writing samples prior to intervention.

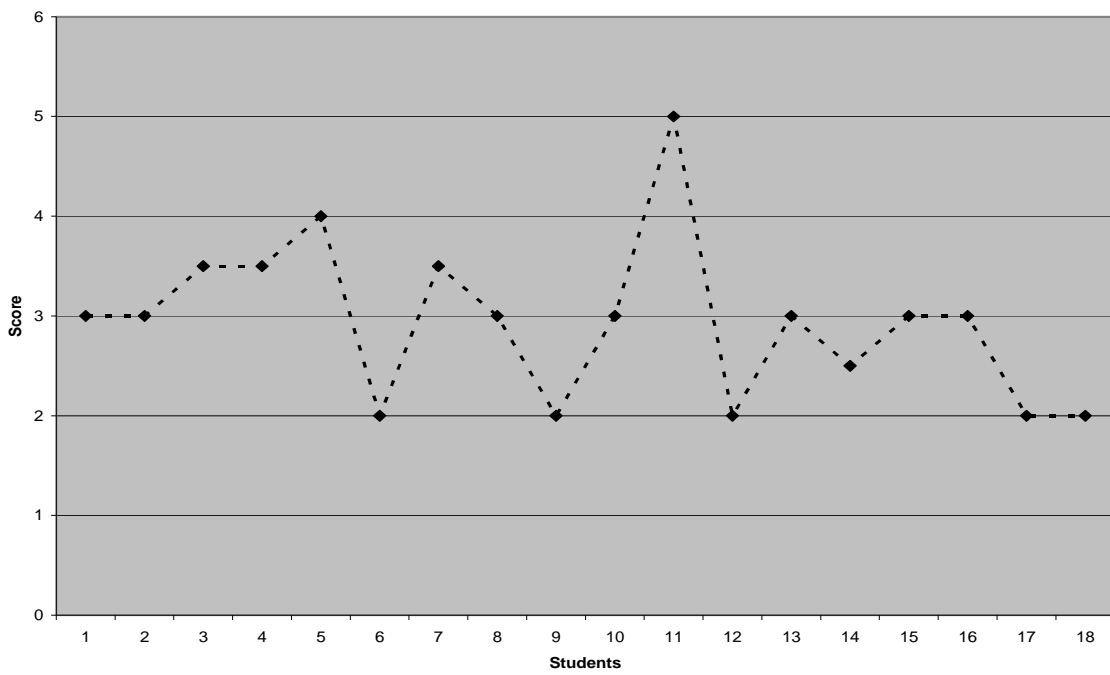


Figure 4.11. Conventions scores on students' prompted writing samples prior to intervention.

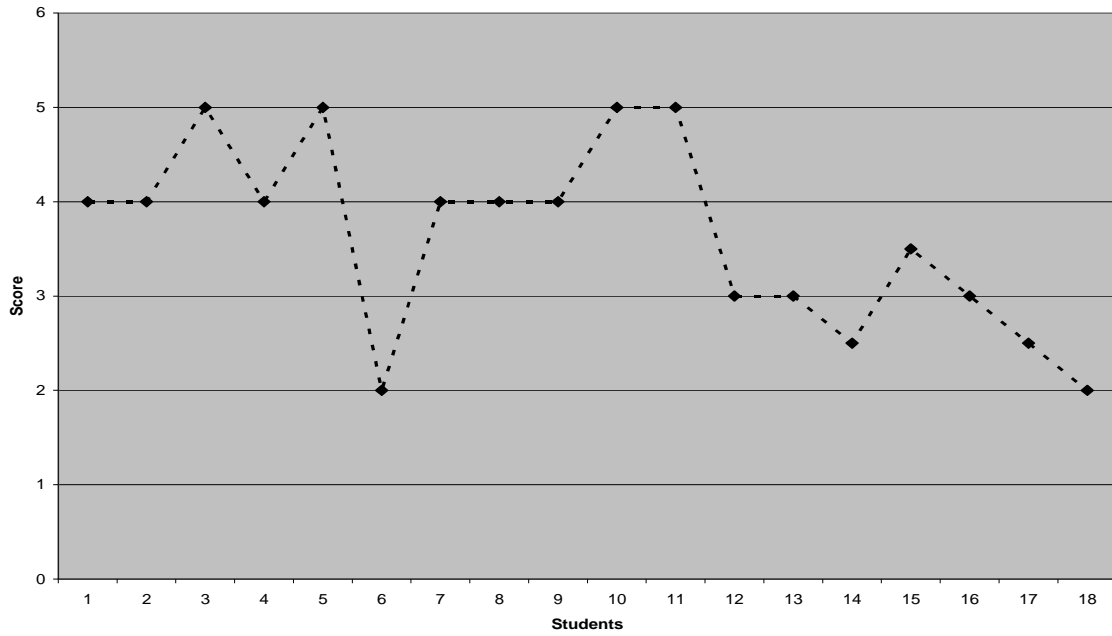
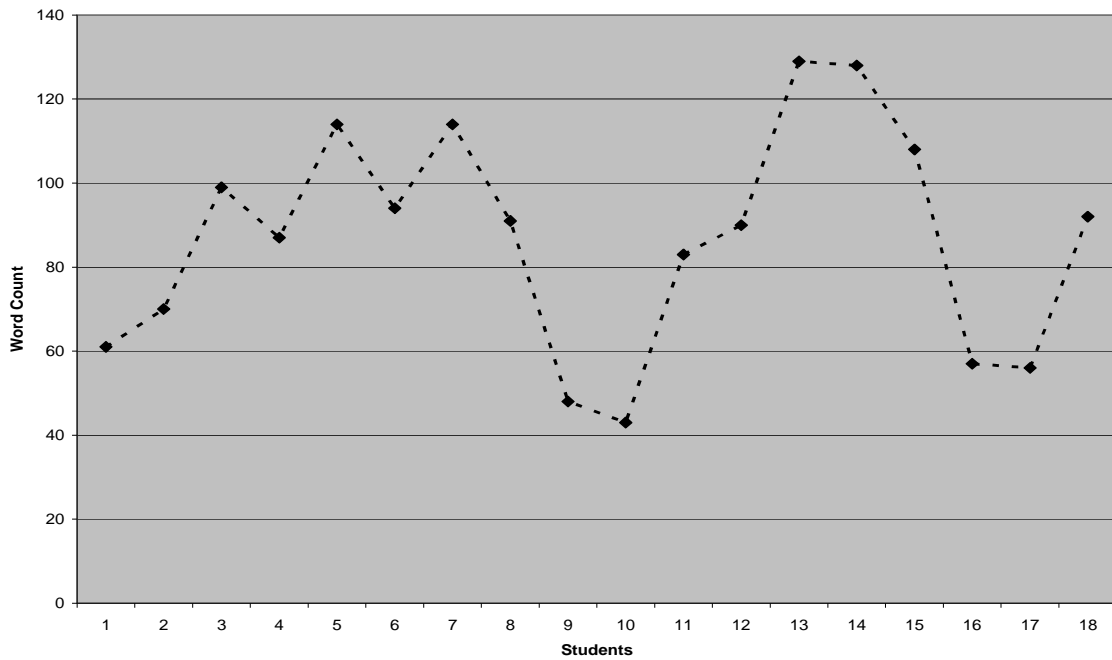


Figure 4.12. Word count of students' prompted writing sample prior to intervention.



Classroom

Ms. Geiger's classroom was bright and inviting. The students' desks, a table, and books filled the room, but it did not seem overcrowded. The students' desks were arranged in two "E" shapes that mirrored one another, an arrangement that Ms. Geiger believed was a compromise between groups and rows. Ms. Geiger's desk was situated at the back of the classroom along with the reading corner. Along the side wall were baskets of several books labeled by genres. Another book display shelf was in the back of the room and a third bookshelf sat behind Ms. Geiger's desk. Often the back counter was covered with library books on the topics that students were studying. Student writing was displayed on a bulletin board in the back of the room, as well as outside the classroom on the wall. Ms. Geiger was the first teacher in her grade level to have writing displayed, as evidenced in my observations on August 25, 2008: "I noted that there was student work on the wall outside the room, writing, and that Ms. Geiger was the only teacher on the hall who had already put up work."

A typical day in Ms. Geiger's classroom began at 8:00 when students started coming into the classroom. From 8:00 until 8:30 students made lunch choices, unpacked their backpacks and completed their morning work. Morning work varied in structure and topic with students working on spelling, reading, math, grammar, science and social studies over the course of a week. As students got ready for the day and completed morning work, Ms. Geiger attended to her daily record-keeping, taking attendance and lunch count. Ms. Geiger often had other tasks to handle in the morning, such as collecting field trip money. During this time period, students also watched the school's

morning news show and did deskercize, a school-wide ten minute exercise program. When deskercize was over, Ms. Geiger went over the morning work and did calendar math, a district mandated math program that reviews math concepts each day.

At 8:30 writing workshop began. One resource student left at this time and returned around 9:00. Ms. Geiger generally started the workshop with a ten to fifteen minute mini-lesson based on the needs of her students. Mini-lessons were generally focused on the six-traits of writing (Culham, 2003): ideas, organization, voice, sentence fluency, word choice, and conventions. After the mini-lesson, students wrote for about thirty to forty-five minutes. During this writing time, Ms. Geiger conferenced with her students. Each student was assigned a day on which Ms. Geiger tried to guarantee a conference. For example, she had a “Monday group” when all students assigned to that group had a conference with her. After a writing time of approximately 30 minutes, students shared their work with each other in a whole class, small group, or paired format. Often Ms. Geiger did a whole-group sharing time with approximately three students coming to the front of the classroom individually to read their work

Between 9:30 and 10:15 am, the students attended related arts (e.g., art, music, PE) and when they returned to class, they began their reading block. The structure of the reading block varied among reading workshop, focus units, and literature circles. Students read novels, picture books, their basal reader, magazines, and other forms of informational texts. Ms. Geiger integrated writing into the reading block almost daily. One of the school’s resource teachers came into the classroom at this time for inclusion. Reading instruction ended at 11:15 when students went out to recess and then to lunch.

At 12:20, students had an hour long math block, which the teacher structured similarly to writing workshop. The math block usually began with a mini-lesson, followed by student practice through a hands-on activity or problem-solving project and typically finished with the class solving some problems relating to the discussed topic. During this block the teacher attempted to integrate literature and manipulatives whenever possible.

Science and social studies followed math from 1:20 to 2:00. The teacher alternated teaching between these two subjects; the number of weeks spent on each depended on the specific topics. The teacher did use some direct instruction, although she said, “I try not to teach too much of this content through lecture.” Students often read articles or books relating to the topic and completed various graphic organizers to summarize the information. In science the class often did brief labs because students visit the science lab every Thursday for 45 minutes. The teacher also showed video clips to reinforce what she was teaching in these subjects. She infused vocabulary into the content areas through its use in discussions and in reading about the topics.

The final period, which included spelling and vocabulary instruction, occurred from 2:00 to 2:20. This block was part of the districts’ mandated curriculum. During this period, students clapped and cheered their spelling words. They also used this time to learn strategies for better spelling and for studying vocabulary. Ms. Geiger emphasized prefixes and suffixes throughout the school year, basing her spelling and vocabulary instruction around affixes.

Factors Enhancing or Inhibiting the Intervention's Effectiveness

In this section, I present data addressing the question: As the intervention is implemented, what factors enhance or inhibit its effectiveness in achieving the pedagogical goal? Often researchers analyze data deductively, starting with data and moving to a hypothesis, or inductively, starting with the specific hypothesis and looking for patterns. I used both inductive and deductive forms of analysis (Creswell & Clark, 2007). That is, I initially conducted two forms of analyses of the qualitative data: (a) coding the data broadly for events that enhanced or inhibited the intervention and modifications that were made in light of these events, looking for commonalities and themes and (b) coding the data for specific recurring themes such as teacher awareness or student attitude that I had noted during data collection. These analyses were done simultaneously, as I constantly compared similar statements to allow meanings to emerge. I looked at the overlap across the data between these two analyses to develop three broad categories of factors that enhanced or inhibited the intervention: teacher factors, student factors, and outside factors. These are illustrated in detail in subsequent sections.

Teacher Factors

The qualitative data strongly suggests that the teacher is a major aspect of the successful implementation of a nonfiction-focused writing workshop. The teacher factors enhancing the intervention fit into two major themes: the teacher's awareness of student needs and the teacher's sense of her own self-efficacy.

Awareness of student needs. The teacher's awareness of her students figured prominently into the daily interactions within the classroom in multiple ways. The first and perhaps most critical way that the teacher's awareness affected the classroom was through Ms. Geiger's ability to connect what she observed with her students through their writing and conferences to her instruction. For example, when Ms. Geiger noticed students still struggling with conventions on a particular writing piece, she decided this area needed to be focused on:

The areas where students struggled are easily fixed with some attention. I think a few students were overly confident and had great content down but let their conventions go. A quick one-on-one conference with the piece should help students realize these sorts of things along with some mini-lessons related to conventions (Teacher's reflective journal, February 3, 2009).

As we moved through the intervention phase of the study, it became clear that although the teacher and I could map out the direction we wanted to go with writing workshop and even outline the overall units of study, instructional decisions would have to be made week-by-week or even day-by-day based on the teacher's assessment of student needs. It would be impossible to script what should occur in the weeks to come. At the start of the year the teacher knew what types of writing the class would study based primarily on the state standards and district requirements; however, what she could not predict was the exact content of her mini-lessons because these would have to be based on formative assessments of what the students needed to learn. For example, the teacher wrote in her reflective journal on December 8, 2008:

I am noticing in the students feature articles, persuasive letters, and how-to pieces, not only a lack on voice and personal connection, but also a major lack in good conclusions. We worked so hard on introductions, organization, and ideas that it really makes their poor endings stick out. This will be something that we will focus on in our research articles. I am not too disappointed about this, though, because as a whole, the students did do a great job in focusing on the things I really stressed in the mini lessons while voice and conclusions were not major topics.

Based on her observations of students' lack of voice in informational writing and weak endings, Ms. Geiger knew that these would need to be major topics of study in her upcoming lessons. Whereas she already knew that the students would be writing research articles, a district and state requirement before making this observation, she did not know the details of what she would be teaching. Ms. Geiger's instruction reflected what she noticed, as shown in the following excerpts from her lesson plans:

Essential Question – How do you include voice in informational writing?

Connection – Review with students the research that they collected before the holiday break.

Teaching – Tell students that when we talk about voice in writing, we mean writing that sounds like a real person wrote it. When you read a piece with voice, it sounds like someone is talking to you.

2. Remind students that it is especially important to have voice in nonfiction writing so that it does not sound boring. Read aloud the book *Learning to Swim in Swaziland* by Nila K. Leigh.
3. Discuss how the author does a great job writing with voice. With the students, create a list on the board of the ways she does this. She brings in lots of details that the kids notice.
4. Also, point out the places where the author talks directly to us and uses conversational words and phrases such as *well, as you can imagine* and *sort of*.
5. Sum up with students that they can include voice in their writing by using conversational language and by including details and stories in their nonfiction writing.

Active Engagement: Students will go back to their seats to work on their nonfiction pieces of writing while teacher conferences with certain students.

During conferences, have students point out the parts where they feel like their writing shows great voice.

Link: Ask students to help you keep an eye out for other examples of nonfiction books that are written with lots of voice. Finish with author's chair (January 5, 2009).

Essential Question – How do writers effectively end their pieces of writing?

Connection: Remind students that we often work so hard on our leads, but just end our pieces without any thought or craft to our writing.

Teaching: Show students how author's sometimes end their pieces with a question that is designed to get the reader thinking. Read aloud "First Pen" by Ralph Fletcher from *Marshfield Dreams*. Point out how this ends with a question. Was this an effective way to end? Discuss.

2. Ask students if they can think of anything else we have read that uses the end-with-a-question strategy.

Active Engagement: Students will go back to their seats to work on their nonfiction pieces of writing while teacher conferences with certain students.

Teacher will ask students during conferences if there is something they would like to leave their reader wondering at the end of their piece.

Link: Ask students to take note from now on how different pieces end. How many end with a question? What types of questions do they end with? Finish with author's chair (January 22, 2009).

The teacher continued to look for evidence of voice and conclusions in student writing, as well as evidence of other skills and strategies that she had taught. She reflected in her journal, "Their pieces this time were much more elaborative and organized. They contained great voice too! Most students started with an introduction and ended with a conclusion. Many chose to organize with section headings" (February 3, 2009). I also observed that the students seemed to understand voice, as evidenced in my field notes from January 21, 2009: "Today students were working on adding voice to their pieces. In my conferences I've noticed that they really seem to be getting this idea."

Because the teacher's instruction was responsive to what she believed students' needs to be, the students seemed more receptive to instruction and wanted to incorporate these strategies into their own writing. The students noted their use of these strategies and perceived a change in their writing. The following are excerpts from two student interviews that show the students' awareness of voice in their writing and why they believe it is important. Lamar, a below-average reader who liked to write, discussed voice in his interview on February 20, 2009:

Kelly: How has your writing changed this year?

Lamar: Um, I can write a lot bigger and I can come up with a lot of, um, I can come up with a lot more sentences and I can have a lot more voice in my writing.

Kelly: What do you mean by voice?

Lamar: Like it sounds like I'm writing it.

Kelly: Why does that matter?

Lamar: Because, um, it just sounds like you're reading a dictionary if you don't have a lot of voice.

Kelly: Is that a bad thing?

Lamar: Um, hum.

Kelly: Why is that a bad thing?

Lamar: Because nobody just sits there and wants to read a dictionary all day.

Ricky, an average reader who did not like to write, also talked about voice:

Kelly: Okay. Anything else you want to say about how your writing has

changed?

Ricky: And I use voice.

Kelly: Oh, what's voice?

Ricky: Where it actually sounds, where you talkin' and it makes it sound like the people are really talking.

Kelly Does that matter? What if I didn't use voice?

Ricky: Then it would just sound like you were, like it was just one person saying blah, blah, blah.

Ms. Geiger's assessment of her students and subsequent awareness of their needs was on-going and seemed to be essential in planning effective instruction. Beyond simply connecting instruction to student needs, Ms. Geiger also had to decide *how* best to do this while also making explicit connections between reading and writing, as this was a crucial part of the intervention. Appropriately connecting students' reading and writing was the second way that Ms. Geiger's awareness affected the writing workshop. Her reflective journal exhibited her seamless integration of reading and writing while considering student needs:

Today we looked at several published memoirs to see how the authors started their pieces. We had talked about leads in our last unit, but many students had questions about how to start a memoir. I told them that they could use any number of leads that we have already discussed, but that it would be a good idea to look at how published authors did it. I gave each student a memoir and had them share the first few lines. We discovered that most of the memoirs that we

read from started out describing the setting or a character in great detail. We then had a discussion as to how this would be effective in our own writing (October 7, 2008).

Ms. Geiger went further with this connection, helping students choose particular books that would help them with their individual pieces. For example, she explained in her reflective journal:

Today during my conferences I worked with Mark. He is having a hard time starting his piece. He has been reading a lot of books, but is struggling with coming up with an idea that he really likes. So far he has several small bits about his family. We talked about how he could model his memoir after *When I was Young in the Mountains* and give us a series of snapshots about growing up and his family (October 13, 2008).

Nick is working on a story about his mom. He had trouble coming up with an idea, so he and I read *My Momma had a Dancing Heart* together. He really enjoyed this story and eagerly went back to his seat with a great idea that he had in his head. He has since then been using this as his mentor text (October 13, 2008).

Lamar is using *The Pain and the Great One: Soupy Saturdays* as his mentor text. He does not often pick up chapter books to read, but this has been one that he really has enjoyed and used for help with his writing. When I conferenced with him, he could turn to the exact pages that he was using as a model for the structure of his own story about him and his siblings (October 14, 2008).

These entries make evident the large role the teacher's heightened awareness played in the successful implementation of the intervention. She had to select appropriate texts for her students and decide how to use these. Ms. Geiger had to be able to spontaneously connect reading and writing, as well as plan for it. I could make suggestions of books to use when I knew her topic, but only she could make the daily choices that this type of writing workshop required. The selection of books can enhance (or inhibit) writing workshop's effectiveness, and the difference the right book makes is exhibited in the following excerpt from Ms. Geiger's reflective journal:

Today I introduced persuasive writing to the students. There are several students who are finished publishing or in the process of publishing their feature articles, so I wanted them to have the opportunity to start thinking about their persuasive pieces. As a class we discussed how you might go about convincing someone to believe what you are saying. We started out by completing a consensogram about our favorite seasons. The students realized that when I asked them to give their reasons for their choices, that they were in fact using elements of persuasion. I then put the kids into groups of four or five and they had 15 minutes to convince me that they deserved the group prize. Their reasoning could be logical and/or funny. I was kind of disappointed in how this turned out. The students were not thinking beyond surface level things. "You should give it to us because we're cool" is a phrase that I heard A LOT! No group gave more than one or two points that all lacked creativity. Finally, I read aloud a book called *I Wanna Iguana*. This helped the students to see how simply convincing your parents that you are

ready for a pet is a form of persuasion. We talked about how the boy in the story was giving all of the positive points about iguanas and pets to his mom. At the end of class, the students had a few minutes to start jotting down their ideas for a persuasive piece (November 11, 2008).

Ms. Geiger also noted the difference that choosing the right text makes when I interviewed her. In response to the question of what enhanced the writing workshop, she replied:

Hmmm. I think what really enhanced writing workshop this year, is how much I, um, used literature models and magazine models and that sort of thing. I've definitely had more, um, using the text more as mentor text and the kids really went back to the authors and tried to write like the authors and model after them. Whereas before I was just showing a book and showing, using a lot of the books for ideas I felt like because I didn't know how to use the books for other traits (February 20, 2009).

Ms. Geiger's quote shows that although she used books during her writing workshop in the previous years, she did not think she had made explicit connections to what the authors were doing and what the students could do. She believed the specific literary connections made a big difference in her classroom. The students seemed aware of this connection. Charlotte told me in her interview, "Yeah, uh, like if you're just writing or reading and you're thinking about something else, go back and you can read what you were reading or writing before so that you can get more sense out of it" (February 20, 2009). Similarly, Anna said, "You have to, you can make a connection to

it [reading], like if you've read a book before, you can write like that like writing letters back to each other" (February 20, 2009).

The teacher's ability to select appropriate texts was important for improving students' reading, as well as their writing. Because Ms. Geiger was constantly connecting what the students were writing to various books, magazines, and articles, the students were frequently reading themselves. For example, when the class began their unit on feature articles from magazines, Ms. Geiger borrowed about 50 children's magazines from the school library and before the students did anything with writing, she had them reading these magazines to see what they noticed. She then had them focus on the magazine's feature articles and their structure. That approach led to more reading in nonfiction, a genre that is often not emphasized in school. The magazines seemed to pique the students' interest and had many of them reading beyond the language arts block. I wrote in my field notes on October 31, 2008, "During extra time today, about four students got out their writing to work on, including some of the struggling writers. In addition, several others got out the magazines to look at them again." Ms. Geiger followed the same pattern with each of her writing units during the intervention; she would bring in multiple books or magazines of the genre that was being studied so that students could use them at their leisure. Ms. Geiger believed the amount of reading the students were doing through their writing had a positive affect on their vocabulary, as well as improving her students' writing. She discussed this in her interview:

Kelly: How do you feel reading and writing are connected?

Ms. Geiger: Um, definitely like I said the mentor texts, using them to help

with writing and then the kids can use the authors, um, as their guide for their writing, and I just think that it provides a really good model for them to base their stories after because obviously if they're published, they're professionals and it's something to work towards using the same sort of thing.

Kelly: Do you see, do you see any of the other way around? Because I definitely can see how you use the reading to improve their writing. Do you see the opposite where the writing can improve their reading?

Ms. Geiger: I think definitely. I think especially with the nonfiction. Um, you know, their vocabulary, I think, went up a lot and it, I guess it still started back to what they were reading and then just writing different phrases and that sort of thing and then they recognized it later on, especially, um, and they knew what, they know what to expect more when they read nonfiction writing just because they've written it and they know how it's organized much better, so that when they get a book, they know what they're looking for and they know what the section headings mean, and I think just writing it themselves really solidified in their mind how to attack a nonfiction piece especially (March 20, 2009).

Selecting appropriate texts for students to use was vital, particularly when students were using texts individually. This was made obvious one day when Ms. Geiger was absent, and I was able to observe the class with a substitute teacher.

Today Peter was mad because he also asked to go to the library and couldn't. He told me that there was nothing in the books in the back about Saturn's rings.

Honestly, I think the books were above his reading level. He needed something he could read and comprehend. His anger at the sub, though, meant he was NOT going to write or even pretend to write. I talked him into using his science book and if couldn't find anything, then he could write on something else (Field notes, January 15, 2009).

The episode with Peter not only demonstrated how important it was to have access to appropriate texts but also the effect that the relationship between Ms. Geiger and her students had on the writing workshop. The relationships that Ms. Geiger built with her students were partially a result of her attunement to their needs, the third way that awareness affected the intervention. Peter was not the only student who refused to write in an effort to express frustration with the substitute teacher. Another student, Jeremy, wanted to go to the library and was told that he could not. He then asked if he could use the computer to do research. "The substitute told Jeremy no because the computer was set up for a streamline video...Jeremy pretty much pouted the whole class and did not write a word" (Field notes, January 15, 2009). Similarly,

Mark, a bright student and good writer, had gotten in trouble earlier with the sub. I believe it was for talking. This totally shut him down. He told me that the sub

was mean and he wasn't going to write. At the end of the hour, Mark had written two sentences (Field notes, January 15, 2009).

All three of the students who refused to write for the substitute generally wrote without prodding when Ms. Geiger was there. I wrote in my field notes on the same day, “[Ms. Geiger’s] expectations are very clear and for the most part she has little to no behavior problems. Almost all of her students consistently respond very well to her” (January 15, 2009).

The data clearly point to the potentially enhancing factors of teacher awareness in three distinct areas: connecting student needs with instruction, choosing appropriate texts, and building relationships.

Teacher self-efficacy. Because writing workshop is designed to be individualized with all students writing at their own speed, as opposed to the whole class progressing together at a pre-determined pace (i.e., Monday everyone pre-writes. Tuesday everyone drafts), teachers must know how their students are progressing in their writing and what problems they are facing. Ms. Geiger talked about the challenges that this individualization brings:

Kelly: What are the difficulties of writing workshop?

Ms. Geiger: Um, sometimes when they're [students] working a lot on their own, I have trouble when I have kids who don't write during the day when they're supposed to. And so then, you know, I try to conference with every kid once a week and sometimes it's hard to

monitor, some of them when they're, they need more than once a week because it's hard to get to everybody as it is once a week. And I have some that won't have done anything from one conference to the next, so that's hard for me to monitor sometimes (March 20, 2009).

The challenges of writing workshop and the effort required of the teacher to meet all of the students' needs meant that Ms. Geiger's belief in the effectiveness of writing workshop and willingness to work through the difficulties were important in the success of the intervention. Her confidence in the value of writing workshop showed when I interviewed her.

Kelly: Tell me why you have chosen to use writing workshop in your class.

Ms. Geiger Because it's effective and I like for them to have choice in their writing. Because I can help them individually.

Kelly: How is it effective? What do you mean by that?

Ms. Geiger That I'm able to base mini-lessons on their needs, and, um, and help them in their conferences, individually and let them work together (March 20, 2009).

Ms. Geiger's confidence in the effectiveness of writing workshop was connected to her overall belief that she could affect students' learning, often referred to as self-efficacy (Bandura, 1986). A teacher's self-efficacy can have a significant impact on student achievement and motivation and a teacher's willingness to modify instruction to

meet students' needs (Brady & Woolfson, 2008; Midgley, Feldlaufer, & Eccles, 1989; Ross, 1992; Stein & Wang, 1988). Ms. Geiger's sense of self efficacy emerged from my data as another factor that enhanced writing workshop's effectiveness in achieving the pedagogical goal of this study. For example, when I asked Ms. Geiger about her belief in being able to make a difference with each child, she replied:

I really do think that I have a great effect on students' learning. For example, being excited about what I teach both visually and in how I describe things to students really helps. They know that I care whether or not they succeed and I always try to stay as positive as possible. I truly believe that even if a child is doing really poorly in something, there is always a positive to highlight and build upon. I think that all children can be motivated in some way. Of course for some it is much easier than others. Each year I have students that it takes me a little longer to motivate, but I work really hard and am always able to find something to get them going and be excited in the task at hand. The biggest key to it all really comes down to showing them that you care and that you believe in them and making it clear to them that failing or not trying to make an effort, no matter how off it might be, is never acceptable (April 29, 2009).

Ms. Geiger's self-efficacy seemed most important with her reluctant writers. Her influence on these students and unwillingness to accept their dislike of writing was exemplified throughout the year with the case of Isaac, a focal student with high aptitude but reluctance to write. When I observed Isaac before the intervention began, I noticed

that he rarely wrote and often cried to get out of writing. Ms. Geiger wrote in her reflective journal on September 5, 2008:

On the opposite end of the spectrum, I have two students who have barely written anything. Isaac, for example, (a challenge student) so far only has ideas written on the first page of his notebook. He does not want to write about any of those ideas despite my encouragement and assurance that they are great ideas. He can verbalize stories for me but will not write them down. When asked to fill out an index card telling me his chosen topic and why, [he responded]: school is boring. For the why part of the question, he wrote: Because it is. I need to find some way to motivate him. His initial interest inventory states that he does not enjoy writing. There are no types of stories that he enjoys; he does not write at home and he does not believe that he is a good writer. However, he does believe that by the end of the fourth-grade, he will feel good about writing! This is exciting! He's really into football, so this may be where we need to take his writing.

Ms. Geiger's reaction to Isaac shows that she is dedicated to helping him enjoy writing and that she will not give up on him. As the year continued, Isaac was not easily swayed and Ms. Geiger often found herself frustrated with both Isaac and her inability to turn him onto writing. She tried various strategies to encourage him to write, but these were often met with resistance.

I had another long conversation with Isaac today about his writing. He still is not anywhere near finished with his feature article and has barely started his persuasive letter or how-to writing. No amount of talking to his Mom or

motivating him individually is helping. I really don't know what to do. I had the idea of sitting with him briefly at the beginning of each class period and really helping him to set a small personal goal for that particular day of something to complete in his writing. The goals could be something like completing a graphic organizer or finishing a section or writing a paragraph about a particular idea. I was hoping that breaking down the tasks would help to make them seem smaller and less daunting. I went in today and found right away that Isaac had started his persuasive letter to the coach of the Panthers. He had an idea of a play that he wanted them to try. I helped him set the goal of writing and describing that play out in detail today. When I checked on him at the end of the writing time (30 minutes later) he had most of it done, but not quite all of it. I am concerned still because the writing he completed could have been done by some of the lesser-able students in less than half of the time that he was given. I really don't know what to do anymore to motivate him. I've tried small tasks, but he rarely gets them completed; I've tried praise and motivation; I've tried talking to his Mom; I've tried talking to his Challenge Teacher; I know you have talked to him. I just don't know what else to do! Maybe he needs some kind of list on his desk where he can cross out things that he finishes, but then again, I'm afraid that he will be put off by the number of tasks, even if there are only two or three. I have had him tell me several times over the last several weeks that his feature article just isn't going to get done. I keep reminding him that he has no option and that it must be

completed, even if it is late. It has no effect on him (Teacher reflective journal, December 15, 2008).

Ms. Geiger and I had several conversations about Isaac and the possible ways she might reach him. Whereas her frustration with him was obvious to me so was her determination to figure out a way to motivate Isaac. As she continued to observe him closely, Ms. Geiger realized that Isaac seemed to do better with more structure than the typical writing workshop required. She decided that she should narrow his freedom on his research topic and give him a specific framework for planning his paper. She had Isaac develop four section headings for his piece prior to writing and begin his research based on these section headings. She reflected:

I am impressed at the start that Isaac is getting on this piece! Finally! I have not seen him waste nearly as much time as he has in the past. He gets at least a little something done each day and is in fact quite productive on many days! Right now he is gathering information for the section headings that he has chosen. I think he is the type of student who works better when he is given a direction in the assignment. I think that before when the topic was completely up to him, he was lost. He changed his topic several times and didn't get started until the last possible minute. He seems to have a better grasp on what to do and how to get down to work now (Teacher reflective journal, January 14, 2009).

Isaac seemed to have a turning point after he began his research article. He no longer cried to get out of work or crumpled up his paper and threw it away at the end of writing. In fact, he started participating in class, even sharing his writing with the group.

When I interviewed Isaac after the intervention, I asked him about how he had changed as a writer throughout the school year; he replied, “Well, at the beginning of the year, I didn’t like to write as much, but, well, writing was difficult, too. It’s still a little difficult, but once I get help, like I said, it’s easier, and I think I write more than I did” (February 20, 2009). I recorded in my interview notes the change in Isaac’s demeanor from when I administered his first IRI. He was no longer reluctant to answer my questions or eager to get out of writing time. Without Ms. Geiger’s belief that she could make a difference for Isaac and her unwillingness to allow him to simply survive writing, Isaac may have had quite a different outcome than the one he did.

Ms. Geiger’s self-efficacy also resulted in a positive attitude in the classroom. She was determined and considered what she could do next to help her students. From the first day in Ms. Geiger’s class, I noticed her positive attitude, as evidenced in my field notes on August 22, 2008:

Ms. Geiger was walking around and monitoring. She asked questions such as, ‘How’s it going?’ and prompted students with statements such as, ‘Think about...’ The teacher explained that at this point the students are getting ideas and don’t have to continue the story that they are on, but may start a new story. Already she seems to have developed a rapport with the students. Ms. Geiger came over and told me excitedly, ‘No one has a blank paper. This is so awesome.’ As she is describing the class to me, Ms. Geiger is very positive. She is obviously excited about her class and the year ahead. She shares her positive

attitude with the class, saying to the class, ‘Keep going. Everyone is doing an excellent, excellent job.’

This positive attitude continued throughout the intervention and was noted several times in my observations, as well as being apparent in Ms. Geiger’s reflective journal. For example, in the following excerpt from her journal, Ms. Geiger reacted to students’ poor endings in their writing:

I am glad that I didn’t throw too much at them at once that they could not handle and this will offer me an excellent point in explaining to them how we have done a great job, but can take our writing just that much further to be truly amazing (December 8, 2008).

The previous passage exemplifies Ms. Geiger’s reaction to students’ difficulties. Rarely, if ever, did she label students as having deficits, but rather concentrated on what students did well and looked to the future for how they could do better. Overall, the teacher’s self-efficacy enhanced the intervention in three ways: overcoming the management challenges of writing workshop, helping reluctant writers, and maintaining a positive attitude.

Student Factors

The qualitative data revealed that the students had an effect on the intervention in two major ways: shared vocabulary and use of strategies.

Shared vocabulary. As I coded the qualitative data it became apparent that the students in the class had a shared vocabulary. Some words were specific to particular nonfiction, such as *section headings*; others were more general, such as *word choice*. This

shared vocabulary made a difference in the students' ability to communicate with each other and the teacher about their writing. The most frequently used words from this shared vocabulary were often what students were incorporating into their work. For example, from my January 21, 2009 field notes: "Students have become very comfortable with nonfiction vocabulary such as *section headings*." When Ms. Geiger began the study of feature articles, none of her students seemed to know what a section heading was or its purpose. As time progressed and students worked on their feature articles, the term *section heading* became a part of their almost daily vernacular. Several times when I conferenced with students, they would mention their section headings. Lamar immediately pointed out section headings as an organizational tool in his interview:

Kelly: What kind of things do nonfiction writers do? Like how do they organize their writing?

Lamar: They usually have section heading and in a fiction book all of the words are put together and there's no section headings.

Kelly: Why would they do section headings?

Lamar: Because it, uh, splits up your writing, and you won't just have a big old clump of writing (February 20, 2009).

Ricky also discussed how section headings were helpful:

Kelly: Okay, did you use that magazine in any way for your writing?

Ricky: Yes.

Kelly: How?

Ricky: Um, by looking through it and looking at the section headings and

reading.

Kelly: What are section headings?

Ricky: The stuff that says what you're writing about. Like I wrote about a thing about the sun and one of my sections was the layers and I wrote about how many layers the sun had.

Kelly: Uh, did, why did you put those in there? Besides that you'd seen it in a magazine, was there any reason for using that in your own writing? Why would you use section headings?

Ricky: Because our teacher told us to and if she didn't tell us, I would and I knew about it, I would probably do it.

Kelly: Were they helpful? Were they helpful to you as a reader?

Ricky: Uh-huh.

Kelly: How were they helpful to you as a reader?

Ricky: Uh, it gives you a brief idea of what the section is about.

Kelly: Ok, how is it helpful to you as a writer?

Ricky: Uh, it's like. You write a heading down and you get a whole bunch of research and it's like, um. They help me, like, in, you might be writing and you might forget what you're writing about and a section heading, you just read over your section heading it'd give you an idea (February 20, 2009).

Anna discussed her section headings as part of her reason for choosing her favorite piece: “My favorite section heading is Neptune’s Moons, which had subheadings in section headings” (March 2, 2009).

Understanding and utilizing section headings seemed to make a difference in student writing. Ms. Geiger stated:

I noticed a HUGE difference in the writing that students completed for their district writing prompts from the fall to the winter. Their pieces this time were much more elaborative and organized. They contained great voice too! Most students started with an introduction and ended with a conclusion. Many chose to organize with section headings. I think that they all felt confident in completing this prompt because of all of the work that we have done with nonfiction (Teacher reflective journal, February 3, 2009).

A more general example of a shared vocabulary is the use of the word *details*, which appeared repeatedly in the data. The students understood the meaning of this word and its importance in their writing. Of the 17 students who selected their favorite piece of writing to share with me, seven mentioned details in their reason for choosing the piece. From my field notes: “As I was conferencing with Chris I noticed that several students wanted to help him figure out his facts and help him add details” (January 23, 2009).

Voice is another word that became part of the students’ shared vocabulary. As discussed earlier in teacher factors, Ms. Geiger began emphasizing voice in her instruction when she noticed that her students were having difficulty with it, particularly

since voice is a rather abstract concept that may be difficult for students to grasp. She described the growth she had observed across the year to me in her interview:

I think that they also, a lot of them talk about all the time how good they are with their voice in their writing and I think that was a big thing that, um, you know a lot of them weren't confident in coming, you know, when we starting talking about voice, a lot of them didn't know what it was and so, now, I feel like they all do and so, um, they definitely feel like that they're good at that now (March 20, 2009).

Other examples of words that students used regularly were organization, word choice, index, table of contents, persuasive, and feature article. These were all words that Ms. Geiger used frequently in her mini-lessons, conferences, and general instructions to students. Overall, this shared vocabulary enabled students to learn the content of writing, label it, and discuss it with others.

Use of strategies. Another major factor in the success of the intervention was the students' willingness to incorporate the strategies and ideas that Ms. Geiger taught. Early in the intervention it became obvious that particular students would be more reluctant than others to try out new strategies. Compounding this difficulty was that because students are all at different points in their writing, a strategy that Ms. Geiger teaches in her mini-lesson may not be relevant for that day. The intention, however, is that students will incorporate the strategy at a later time when it *is* appropriate. Ms. Geiger and I noticed, however, that sometimes strategies were not implemented at all, even when relevant. This was an inhibiting factor of the intervention that required accommodation,

so Ms. Geiger decided that whenever possible she would ask students to practice the strategy for a brief period of time immediately after the mini-lesson. She wrote in her reflective journal, “Simply telling the students to remember all of the strategies that we have learned and to apply them as needed is not getting the job done” (December 1, 2008). This change to the intervention was made to encourage broader use of the strategies. For example, when Ms. Geiger taught students about introductions, many were past their introductions in the drafts they were writing, but she wanted to ensure they utilized the strategies she was discussing. I described this change in my field notes on January 21, 2009:

Ms. Geiger asked students to work on introductions for 5-10 minutes. She did this because she had noticed that few students were making use of some of the strategies that she was teaching. Every kid was writing without complaint. Those who had been so reluctant last week were diligently writing. After ten minutes of writing, Ms. Geiger had students share their pieces.

Ms. Geiger did not always have students use the strategy immediately after the mini-lesson. For example, if she was teaching on a topic for multiple days, it was not necessary to practice the strategy every day. Having the students spend five to ten minutes on a strategy seemed to increase the likelihood that they would use it authentically in their writing as long as Ms. Geiger tied it directly to the piece the students were writing.

Outside Factors

Thus far the teacher and student factors that I have discussed have enhanced the intervention or were modified to enable advancement toward the pedagogical goal. Ms. Geiger's awareness of her students made instruction more effective, enabled her to choose appropriate texts, and enabled her to form relationships with her students. Her self-efficacy helped her be persistent with reluctant students and maintain a positive attitude. The students' shared vocabulary allowed them to learn the content of writing and communicate about it. Modifying the intervention so that students practiced strategies after mini-lessons helped students better understand and use the strategies when appropriate. However, there were factors that inhibited the intervention as well. In examining the data, these inhibiting factors seemed to fall into the category of outside factors. These outside factors came in the form of requirements from the school, district, and state and were beyond the teacher's control.

School. Because of Pineville Elementary's past support of writing, I anticipated few problems at the school level; however, some challenges did arise. Logistically, there were two difficulties that I encountered at the school level: grade level planning and scheduling. As mentioned earlier, the administration asked that each grade level remain consistent in what they were teaching. To accomplish this, teachers each planned one subject to share with one another. Whereas the instructional method could be modified, the administration mandated that the content remain the same. Ms. Geiger was the grade-level teacher responsible for planning writing. This responsibility facilitated implementing the intervention because she had great flexibility in her writing plans;

however, she met with resistance from some of her colleagues who were not interested in keeping a nonfiction focus and who were not as supportive of the workshop format. Ms. Geiger was a bit reticent to plan for the other teachers, as she understood that each classroom would have different needs and believed that planning for other people could be counterproductive. To compensate, Ms. Geiger wrote detailed plans explaining her reasoning behind instructional decisions in hopes that others would modify the plans accordingly. Interestingly, one teacher complained to the principal about the “unnecessary” length of Ms. Geiger’s writing plans, and Ms. Geiger was asked to create a “short version” of her plans to share. Another complication of grade level planning was that because a different teacher was responsible for planning reading, Ms. Geiger did not have unlimited freedom in her reading instruction, which interfered with complete integration of reading and writing.

Scheduling also resulted in some minor difficulties with the intervention, primarily because of pull-out programs. One student missed the writing mini-lesson and a portion of writing time every day because he left for resource. Because he had two required periods of resource per day, making sure he was on track with the class was particularly problematic. Despite trying different scheduling arrangements, no solution was found. Three other resource students generally received inclusion services during reading but occasionally were also pulled out of the classroom. Ms. Geiger discussed the scheduling in her interview:

I think one thing, and it was kind of beyond everyone’s control but, you know, as far as Nick’s progress, he missed half of [writing workshop] which was difficult

for him as far as workshop because of resource and so he missed the mini-lessons every day, but there was no way to really work around that, um, so just scheduling is very difficult and that kind of inhibited some of it (March 20, 2009).

Other problems arose because of school-wide expectations for teachers. Pineville placed a strong emphasis on Accelerated Reader (AR), a computer program that allows students to take quizzes on books and accrue points. Not all books have accompanying quizzes; therefore, not all books are designated as AR. Although there were no specific consequences for teachers whose students did not meet their AR goals, the administration and librarian encouraged teachers to stress AR in their classrooms. Students were expected to check out at least one AR book when they went to the library; classes meeting their AR goals were highlighted on the school's morning news and individual students meeting their goals attended a quarterly celebration. The strong school-wide emphasis on AR influenced both Ms. Geiger and her students' book choices. "Before beginning the read-aloud, Ms. Geiger gave a talk about AR, encouraging students to read AR books to meet their AR goals. She explained that the book that she would be reading was an AR book" (Field notes, January 28, 2009).

Some of the school-wide expectations were troublesome because of the disconnect between the expectations and the classroom. Ms. Geiger explained, "I understand the intent behind the requirements, but it is becoming more and more difficult to teach because of all of the things we are being asked to do. I feel as if I have less control and flexibility" (December 16, 2008). An example of one of these requirements is explained in my field notes:

There are several requirements like a particular vocabulary assignment that the teacher must do each week. This week's assignment was an open/closed sort—an activity that the teacher agrees is useful, but that didn't fit with this week's plan very well. She had to pull words that weren't necessarily related to the week's plans so she could turn in her documentation for doing her vocabulary sort (December 16, 2009).

Assignments such as the one described interfered with the intervention because they required extra time and decreased the integration of language arts. Other mandates interfered because of the stress they seemed to cause:

I came in today and there was definitely a heightened level of anxiety. A check-off list was e-mailed to all teachers of what they must have on display in and outside of their classrooms. One of the items was that all work on display, including writing must be from 2009. There have been only three days of school since returning from break, so putting up writing in that short amount of time goes against the writing process and made Ms. Geiger feel pressure to 'get something up.' In addition, the overall list seemed to add a lot of stress on Ms. Geiger and some of her colleagues (Field notes, January 8, 2009).

District. The biggest constraint that the district put on the intervention was its requirement for all elementary language arts teachers to use a mandated language arts curriculum. The curriculum itself was not incompatible with writing workshop; however, the district had very specific requirements within the curriculum such as the genres that had to be taught, the use of a "word block" in all elementary grade levels, specific words

on the word wall which had to be updated weekly, and spelling lists. Whereas these did not prohibit the intervention, they did create boundaries. I made note of this constraint in my observations on January 28, 2009: “Ms. Geiger once again talked with me about the lack of flexibility that she was feeling. There is a mandated system in the county that must be followed to the letter. It makes her worry about thinking outside of the box.” The requirements of the district meant that the intervention had to end early enough so that Ms. Geiger could make sure that she had taught some of the fiction genres that she had not been able to teach before the implementation of the intervention. It also meant that students had to spend time working on district prompts twice during the intervention instead of having their regular writing workshop.

State. One final constraint on the intervention came from the state’s standardized testing. When this study was planned, all state testing occurred in the final weeks of school. Shortly thereafter, the state revised the testing schedule so that writing would be tested in mid-March, approximately two months earlier than the previous school year. This meant a major revision in the schedule of the intervention, which could not be implemented through March as originally planned. Ms. Geiger felt comfortable allowing the intervention to continue through mid-February, giving her a month to finish her fiction and prompt writing units before the state test. To compensate for this earlier ending, the intervention began as soon in the school year as possible.

Evidence of Progress toward Pedagogical Goal

Prior to the intervention, I gathered qualitative and quantitative data to set a baseline for determining if the intervention was advancing the pedagogical goal. During

the intervention, I gathered qualitative data to ascertain progress, and after the intervention, I gathered qualitative and quantitative data to compare to the baseline data. Pre- and post-intervention quantitative data were compared to complement the qualitative data in making inferences, not to establish a causal relationship as in a controlled experimental study.

Quantitative Data

Pre- and post-intervention Informal Reading Inventories (N=18) were analyzed using a paired samples t-test. The results of the SIRI shown in Table 4.2 indicate statistically significant differences (alpha = .05) between the mean pre- and post-SIRI scores at all three levels. The mean gains on the SIRI for the class represent more than a year’s growth in a 6-month period of time (see Figure 4.13). Individually, all but one student showed growth on at least one of the levels (Figures 4.14 to 4.16). It is important to note that these scores are not standardized.

Table 4.2

Pre- and Post-intervention Means and Standard Deviations for Students’ Scores on the Stieglitz Informal Reading Inventory

Level	Pre-	Post-	Gain
Independent	2.88 (1.799)	4.03 (1.988)	1.15*
Instructional	4.06 (1.936)	5.44 (2.038)	1.38*
Frustration	5.29 (1.99)	6.65 (1.97)	1.36*

*p<.001

Figure 4.13. Mean reading levels on Stieglitz Informal Reading Inventory pre- and post-intervention.

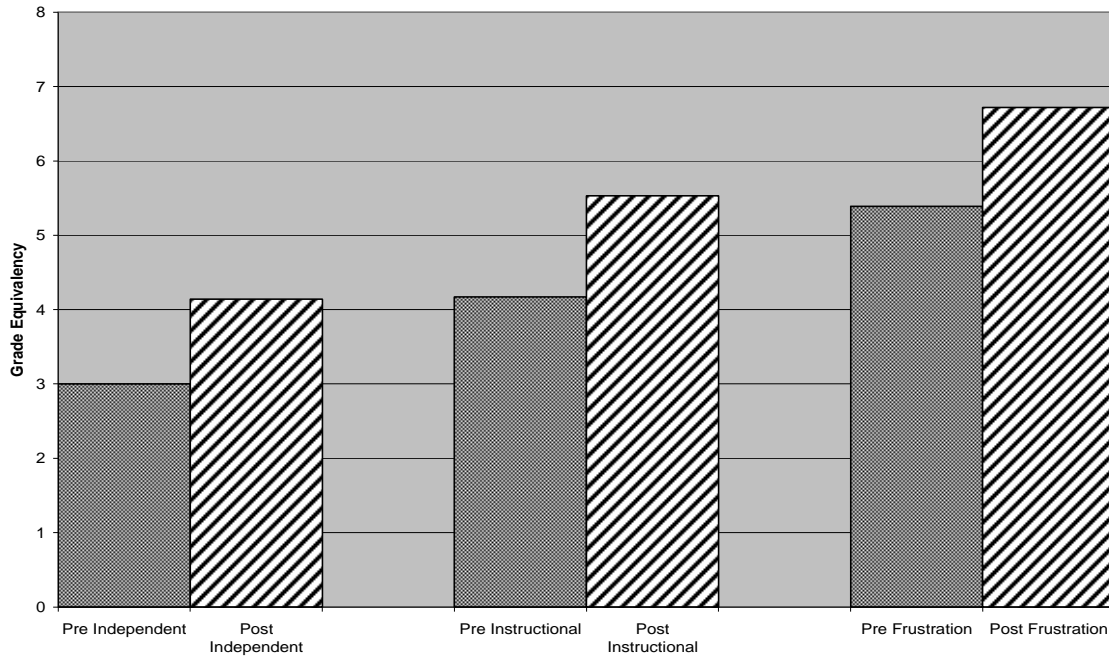


Figure 4.14. Independent reading levels on Stieglitz Informal Reading Inventory pre- and post-intervention.

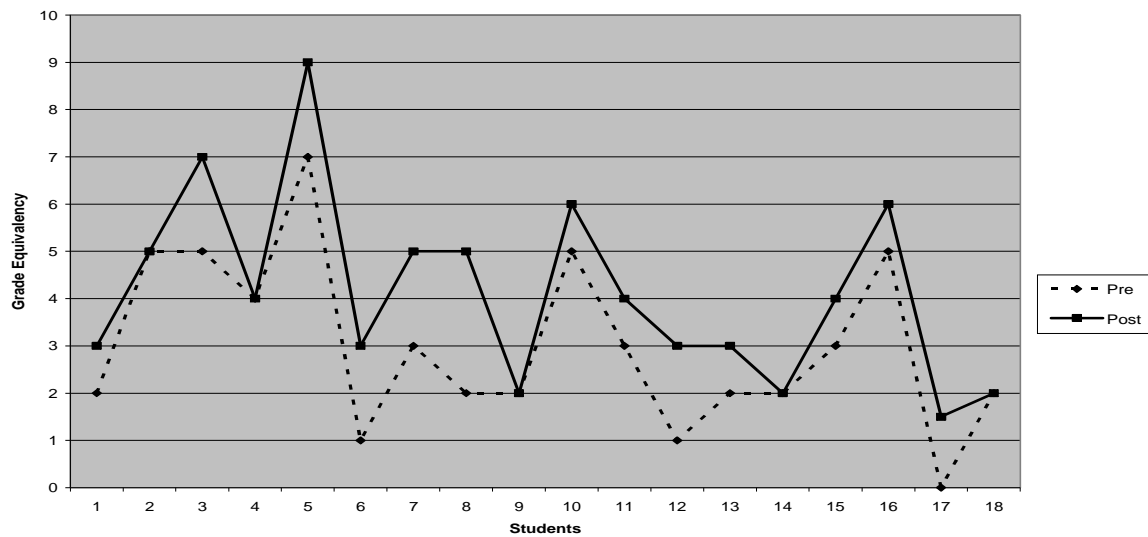


Figure 4.15. Instructional reading levels on Stieglitz Informal Reading Inventory pre- and post-intervention.

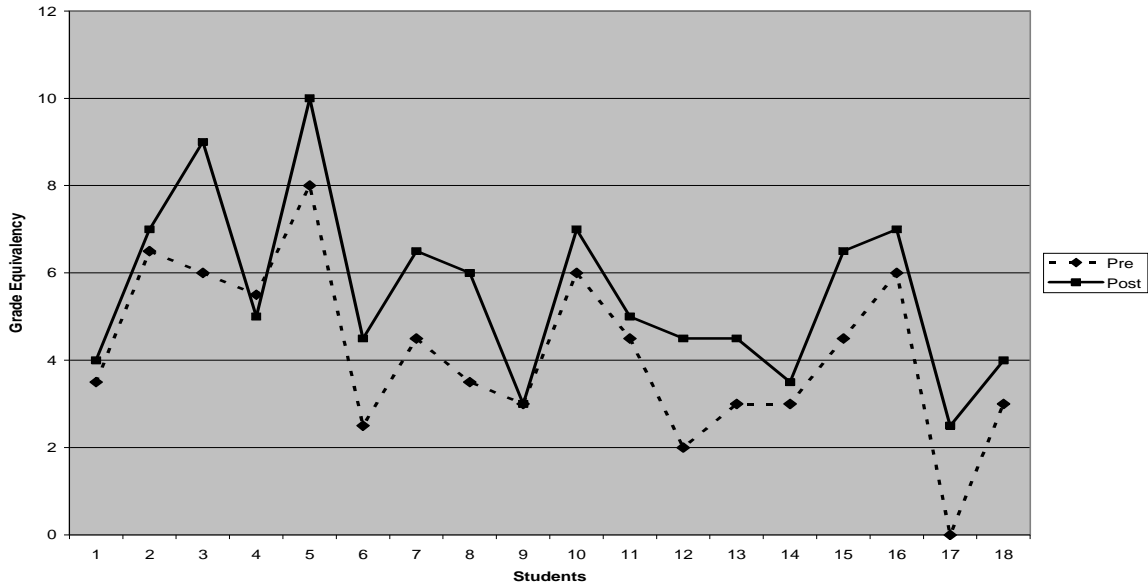
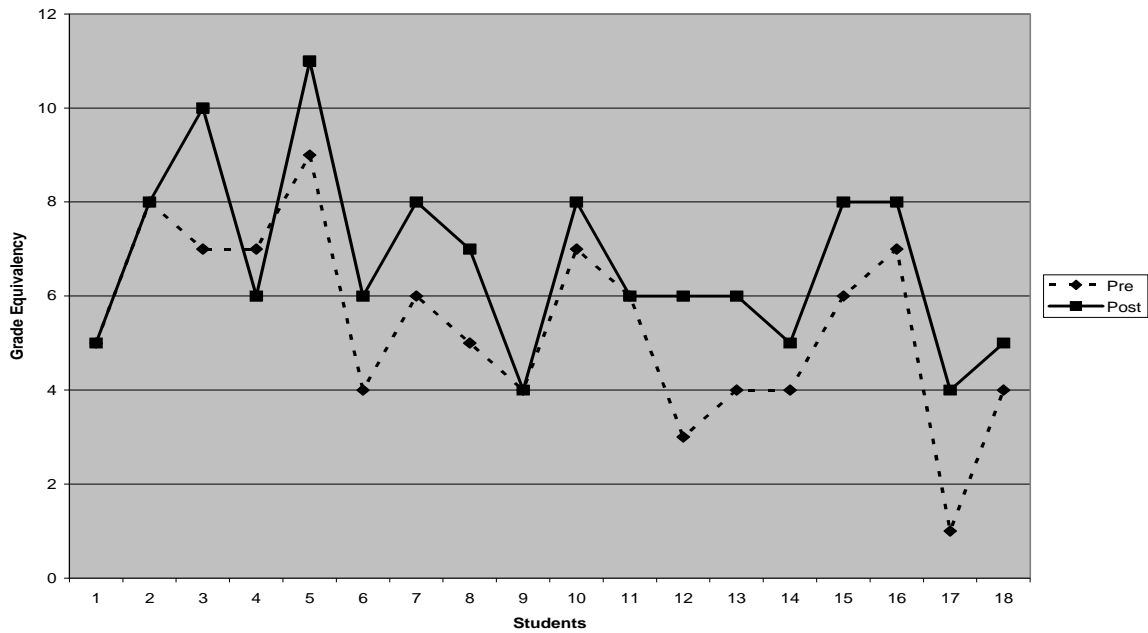


Figure 4.16. Frustration reading levels on Stieglitz Informal Reading Inventory pre- and post-intervention.



A paired samples t-test of the students' writing prompt (N = 18) also showed overall gains on all six attributes of their writing, as well as word count. Table 4.3 shows the means and standard deviations for pre- and post-intervention writing scores on the six attributes and word choice and the overall gains for each.

Table 4.3

Means and Standard Deviations for Students' Scores on the Prompted Writing Samples

Attribute	Pre-	Post-	Gain
Content	2.80 (.548)	3.35 (.763)	0.55*
Structure	2.68 (.677)	3.30 (.613)	0.62*
Stance	2.88 (.604)	3.53 (.734)	.65*
Sentence Fluency	2.93 (.712)	3.53 (.803)	.6*
Diction	2.85 (.813)	3.78 (.939)	.93**
Conventions	3.58 (.990)	4.15 (.860)	.57*
Word Count	84.20 (26.63)	152.95 (47.92)	68.75**

*p<.05

**p<.001

Figures 4.17 to 4.22 show individual scores on the writing prompt. Individually, no more than three students' scores decreased on any attribute. Figure 4.23 shows individual word count pre- and post-intervention. The post-intervention data showed that the class had a neutral attitude toward reading with 12 students scoring between a 48 and 96. Three students showed a positive attitude and three a negative one. The results of the pre- and post-intervention attitude surveys did not show significant differences in students' attitudes about reading except in the area of organized reading (see Table 4.4). The lack of change in other areas may have occurred because the teacher has the most direct control over students' organized reading in the classroom. Qualitative data did suggest a change in attitude. This will be discussed in the next section.

Figure 4.17. Content scores on students' prompted writing samples pre- and post-intervention.

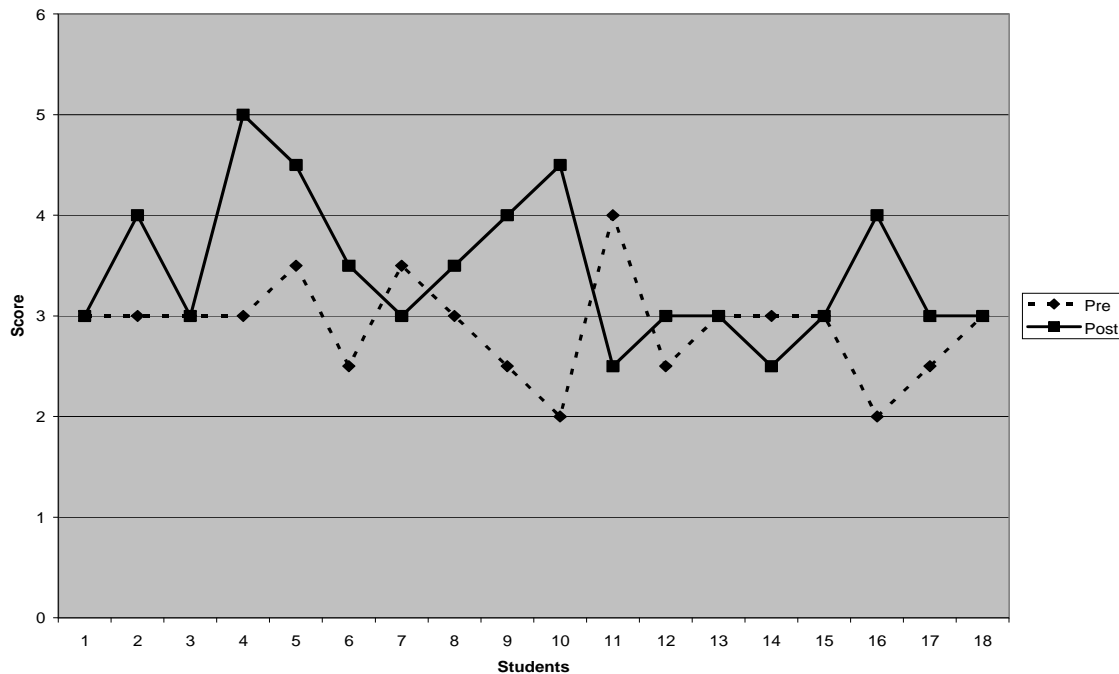


Figure 4.18. Structure scores on students' prompted writing samples pre- and post-intervention.

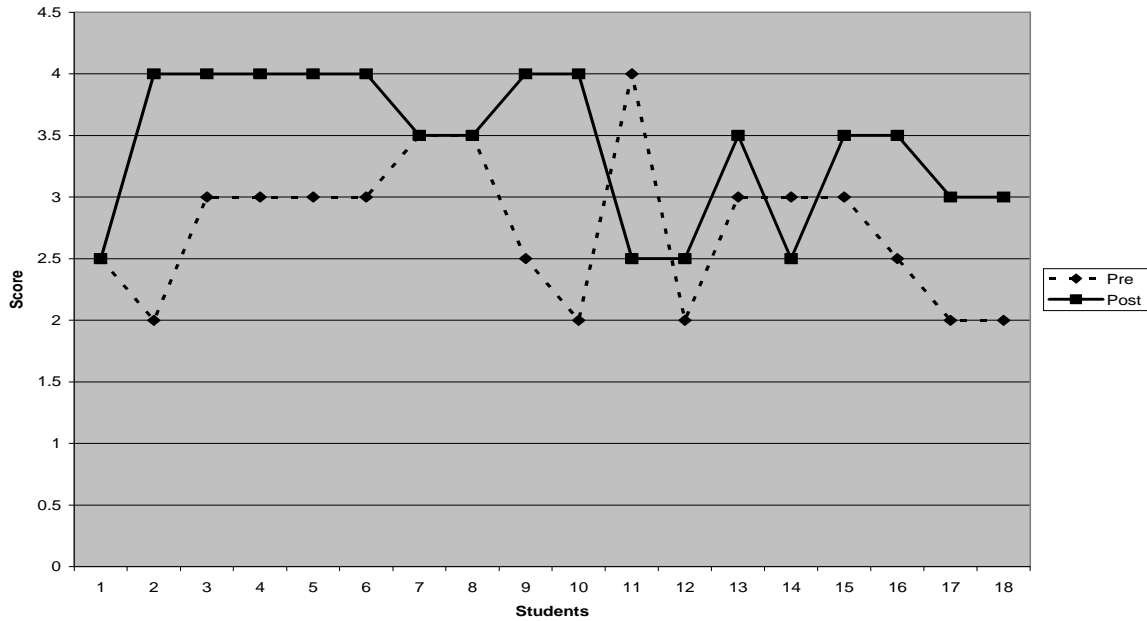


Figure 4.19. Stance scores on students' prompted writing samples pre- and post-intervention.

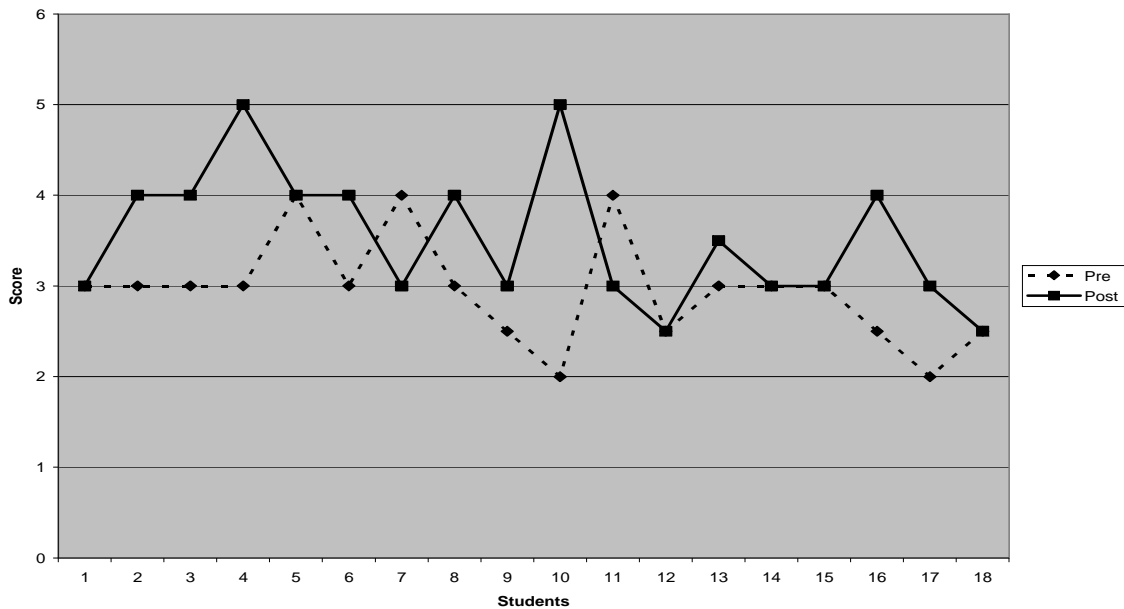


Figure 4.20. Fluency scores on students' prompted writing samples pre- and post-intervention.

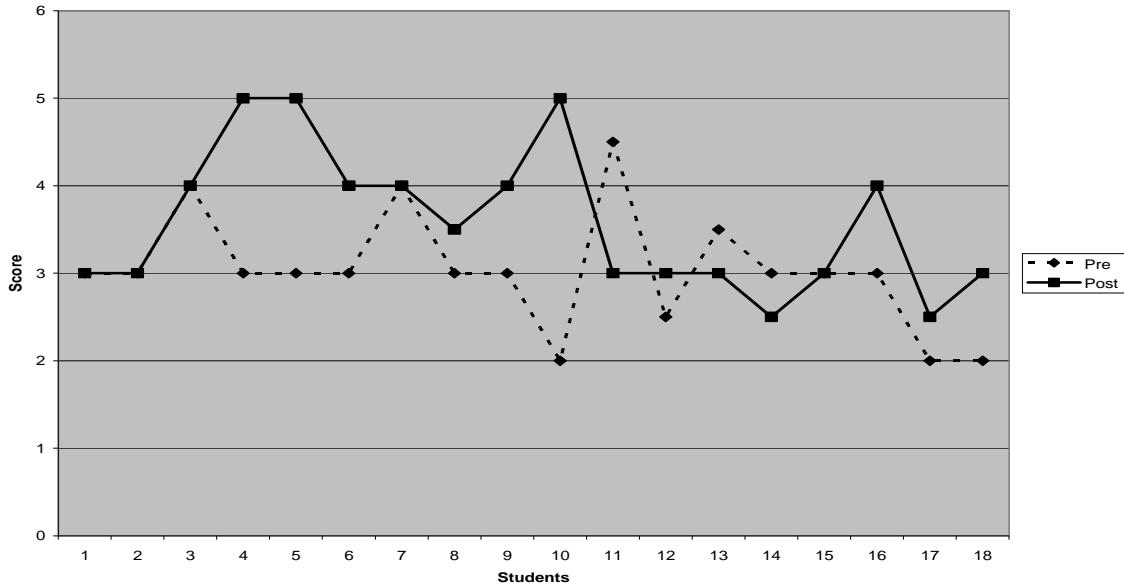


Figure 4.21. Diction scores on students' prompted writing samples pre- and post-intervention.

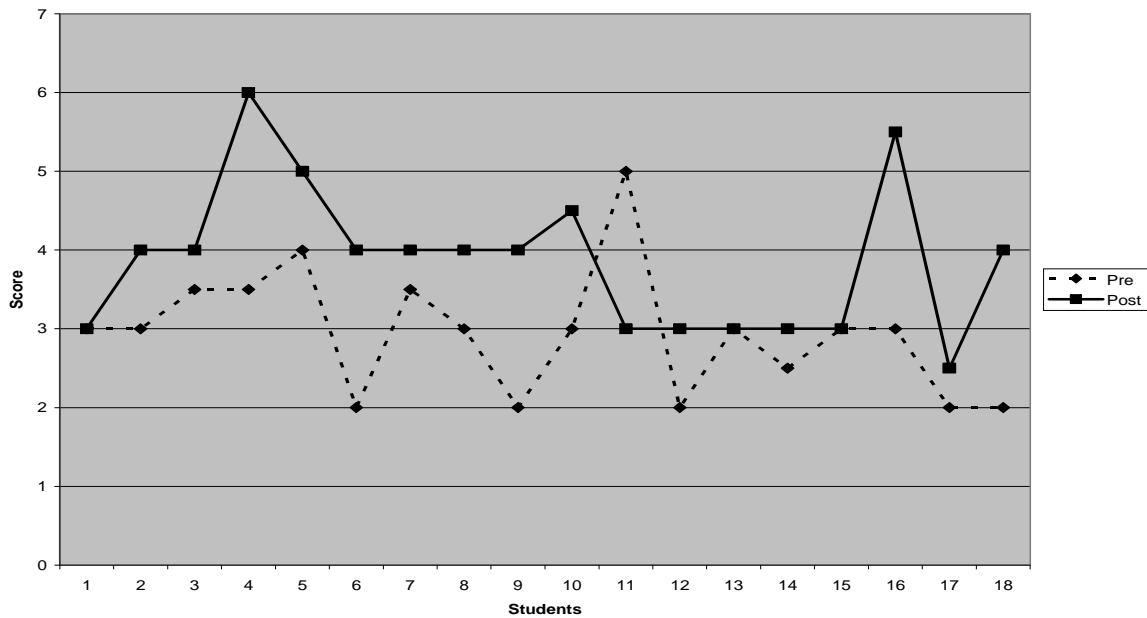


Figure 4.22. Conventions scores on students' prompted writing samples pre- and post-intervention.

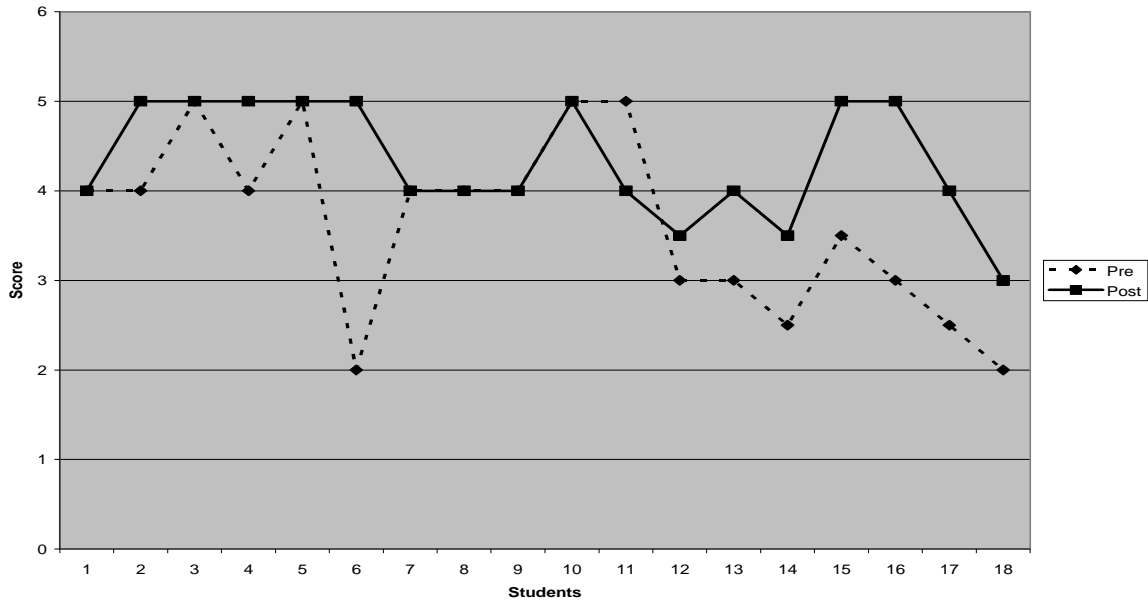


Figure 4.23. Word count of students' prompted writing samples pre- and post-intervention.

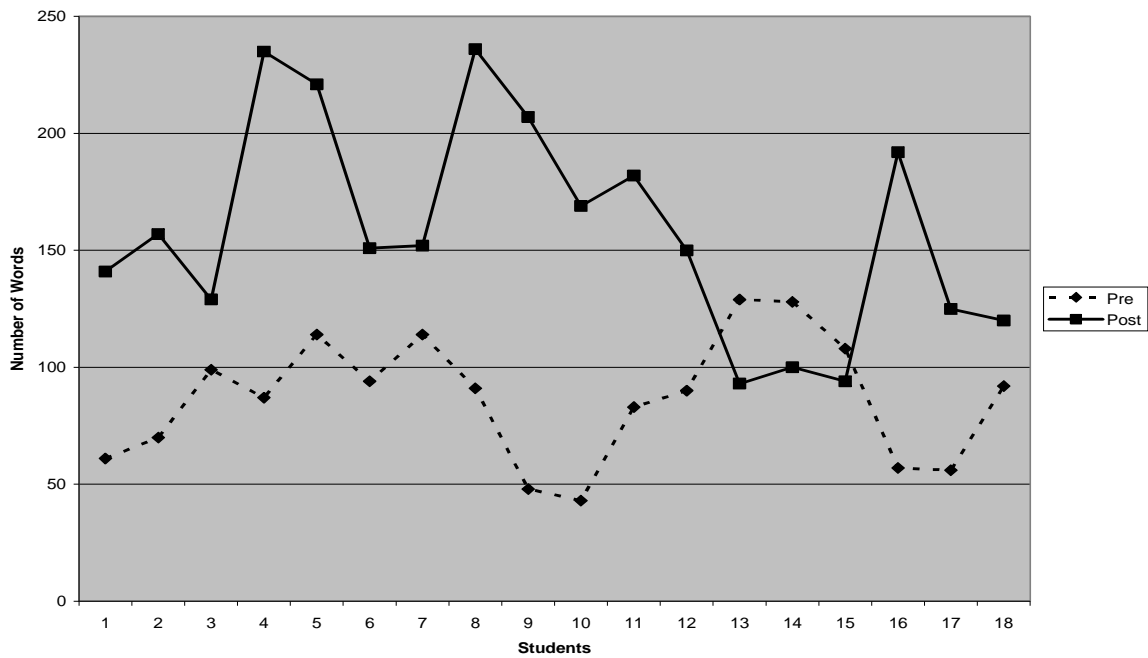


Table 4.4

Means and Standard Deviations for Students' Scores on the Heathington Intermediate Attitude Scale

Area	Pre-	Post-	Gain (Loss)
Total Attitude	73.0 (21.47)	74.84 (23.47)	1.84
Free Reading	3.44 (1.11)	3.81 (.945)	.37
Organized Reading	2.76 (1.11)	3.32 (.989)	.56*
Library Reading	3.35 (.848)	3.46 (.998)	.11
Home Reading	2.88 (1.17)	3.13 (1.28)	.25
Other Recreational Reading	2.39 (1.44)	2.28 (1.25)	.11
General Reading	2.96 (1.096)	3.02 (1.01)	.06

*p<.05

Qualitative Data

Throughout the study, I found qualitative evidence of progress toward the pedagogical goal. Interviews with the teacher and the focal students, field notes, the teacher's reflective journal, and student and teacher casual remarks consistently point toward increased achievement and attitude in reading and writing. For example, the following incident was recorded in my field notes, showing a change in attitude about writing:

As students got notebooks, Ricky showed me his. He said, “Look at my notebook” and showed me how it was falling apart. I told him I’d be more concerned if it looked brand new, thinking he was referring to the notebook’s condition. He then said, “No! Look how much I’ve written.” It was a handful of pages. I said, “Is that all you’ve written?” Ricky responded emphatically, “That’s more than I’ve done IN MY LIFE!” (January 8, 2009).

Ricky also expressed a shift in his thinking about reading and writing when I interviewed him. As the year began, he greatly disliked both reading and writing, a major reason for being chosen as a focal student. When I interviewed him, he originally said that he did not like to read, but the following excerpt contradicts that assertion and actually makes obvious his change in attitude toward reading:

Kelly: How would you change, if you could change anything about reading and/or writing in your class what would it be?

Ricky: Um, I would change it by making reading, let you read as long as you want instead of just for a certain amount of time and writing I would say if you don’t finish in time then you can work on such and such while we’re working on such and such.

Kelly: So more freedom. You could write more and you could read more. Now that’s interesting because you said that you didn’t like to read, but you would like to have as much time as you wanted to read?

Ricky: Well, there’s some interesting books, like *The Diary of a Wimpy Kid* books series.

Kelly: You like *The Diary of a Wimpy Kid*? So would you say you're more interested in reading this year?

Ricky: Uh-huh

Kelly: And why?

Ricky: Because it seems that when I don't have anything to do, I just pick up some books and read.

Kelly: Did you do that before?

Ricky: No.

Kelly: That's so exciting.

Ricky's interview might partially explain the discrepancy between what I saw in the classroom and what the attitude inventory showed. There was reluctance on Ricky's part to admit he actually did enjoy reading. I believe that being "the kid who does not like to read" had become part of his persona and it was hard to let go of that.

Ricky was not the only student to proudly show me his work. In fact, it was not unusual for students to come up to me as I walked in to share their writing or the books that they were reading. As the year progressed, some of the most reluctant readers and writers were the ones approaching me to see if I would look at what they had written or to tell me how far they had read in their latest book.

Ms. Geiger noted a change in student achievement and attitude in writing. She recorded the following in her reflective journal:

Logan and I spent a lot of time today talking about his introduction. He, like Isaac, is getting a much better start on his writing. Before he would spend several

days just staring at a blank paper and not getting much done. Now he makes at least a little progress each day. He has a fantastic introduction and is on a roll with his sections. I don't think he will be completely finished by the due date (he never is) but I think that his progress will be much further by that time. I am wondering if he, like Isaac, works better under some kind of structure, or if it is just the fact that we have been writing nonfiction for a long time and it is getting easier for him. He is not a big risk-taker and I think he is much more comfortable getting his ideas down on the paper and trying out different styles of writing when he is confident that it will be accepted by me and his peers. He has full capabilities as an excellent writer, but just lacks confidence. Fortunately, I think his confidence is building! (January 22, 2009).

All of the students that I interviewed believed that they were good readers and writers and that they had improved this year. For example, Anna explained in her interview that she had become a better reader because she was reading "more challenging books" (February 20, 2009).

Summary

In this chapter, I have reported the results of the quantitative and qualitative data to answer questions 3 and 4 in the framework for conducting formative experiments described in Chapter 1. The data suggest that the primary factors enhancing the intervention's effectiveness fell into two categories: teacher factors and student factors. The teacher factors included her awareness of students and her self-efficacy. The teacher's awareness affected the intervention in three primary ways. First, she was able

to effectively plan instruction based on student needs. Second, she chose appropriate texts to use to optimize student learning and the reading-writing connection. Finally, her awareness helped her form relationships with her students. The teacher's self-efficacy enabled her to work through the challenges of writing workshop, be persistent in motivating reluctant writers, and maintain a positive attitude in the classroom. The student factors that enhanced the intervention included having a shared vocabulary and the students' willingness and ability to use writing strategies. Having a shared vocabulary helped students to learn the content of writing, label it, and discuss it with others. Strategy use was important because if students did not utilize the strategies Ms. Geiger taught, her instruction would be ineffective. Because some students were not incorporating strategies into their writing when it was appropriate, the intervention was modified so that students practiced the strategies immediately after the mini-lesson. This seemed to help students understand better when to use the strategies.

The findings show that outside factors were the primary inhibitors of the intervention. These fell into three categories: school, district, and state. School factors included the requirement that grade levels plan their instruction together, scheduling, and expectations. Grade level planning was a factor because Ms. Geiger's team was not fully supportive of the nonfiction-focused writing workshop and because it inhibited Ms. Geiger's freedom to plan for fully integrated reading and writing instruction. Scheduling was a problem for students who were pulled out for resource, particularly for one student who missed 30 minutes of writing instruction each day. School expectations caused difficulty because of the school-wide Accelerated Reader program, which influenced

student and teacher book choices, and because of requirements that were time-consuming and interfered with language arts instruction. The main outside factor from the district that inhibited the intervention was a mandated language arts curriculum, which constrained our flexibility with the intervention. The final outside factor which inhibited the intervention was the state's mandated writing test, which was moved from mid-May to early March. This earlier testing date meant that the intervention had to be truncated to allow the teacher time to prepare for testing.

This chapter also discussed the extent to which the intervention advanced the pedagogical goal. The quantitative data indicate that students demonstrated growth in their independent, instructional, and frustration reading levels and in all six attributes of their writing, as well as the length of their writing. Attitude scores did not show growth; however, qualitative data did suggest a change in attitude. Data are not meant to establish a causal relationship between the intervention and growth, but to help make inferences about the effectiveness of the intervention in advancing the pedagogical goal.

In Chapter 5, I will summarize the findings, describe how the classroom environment changed, and present unanticipated positive and negative effects of the intervention. I will also discuss implications for future research and classroom instruction and the limitations of the study.

CHAPTER 5

SUMMARY AND DISCUSSION OF FINDINGS, LIMITATIONS, AND IMPLICATIONS

In this chapter I will answer the final two questions in the framework for conceptualizing and conducting formative experiments that I discussed in Chapter 1:

1. Has the instructional environment changed as a result of the intervention?
2. What unanticipated positive or negative effects does the intervention produce?

I will also discuss implications for future research and classroom instruction and the limitations of the study.

Summary of Study

Previous research has established that the processes of reading and writing are connected (Brogan & Fox, 1961; Fitzgerald & Shanahan, 2000; Loban, 1963; Schonell, 1942; Shanahan & Lomax, 1986; Tierney and Shanahan, 2000; Woodfin, 1968) and that utilizing the reading-writing connection in the classroom can improve student learning (Corden, 2007; Dressel, 1990; Glenn, 2007; McGinley, 1992; Parodi, 2007; Tierney, Soter, O’Flahavan, and McGinley, 1989). However, the majority of studies that examine the pedagogical implications of the reading-writing connection have studied how reading influences writing rather than how writing influences reading (Corden, 2007; Dressel, 1990; Eckhoff, 1984; Garrigues, 2004) and focus on either college students or primary grade students (Craig, 2006; Glenn, 2007; Rickon, 2005; Tierney, Soter, O’Flahavan, & McGinley, 1988). The purpose of this study was to determine how a nonfiction-focused writing workshop can be implemented in a fourth-grade classroom to improve students’

reading and writing abilities and attitudes. To support this goal the teacher frequently and explicitly made connections between nonfiction texts that she and/or the students were reading and what the students were writing. Despite the strong theoretical implications of the benefits of connecting reading and writing, the evidence is lacking in how utilizing this connection in the upper elementary grades might improve student reading and writing, specifically how this can be done in the context of a nonfiction-focused writing workshop. Additionally, there have been no formative experiments conducted that examine the difficulties of implementing a nonfiction writing workshop. This study is intended to help fill the gap in the research on the use of the reading-writing connection in upper elementary grades and nonfiction writing workshops.

The current investigation utilized an embedded concurrent mixed methods design within the framework of a formative experiment to understand how a nonfiction-focused writing workshop could improve student achievement and attitude in reading and writing. Quantitative data were collected during the baseline phase and post-intervention to determine progress toward the pedagogical goal. Quantitative measures included the Stieglitz Informal Reading Inventory (SIRI), Heathington Intermediate Attitude Scale, and student prompted writing samples. Qualitative data were also used to determine progress toward the goal and to understand what factors enhance or inhibit the intervention. Qualitative sources included observations and field notes, teacher reflective journal, informal discussions and interviews with the teacher and students, and classroom artifacts. Whereas results of the data analysis are discussed in Chapter 4, the remainder

of this chapter will discuss the changes in the educational environment, unanticipated effects of the intervention, findings and implications, and limitations.

Changes in the Educational Environment

Reinking and Bradley (2008) describe formative experiments as transformative. They explain, “[A]n intervention that is the object of a formative or design experiment is often one that has the potential to positively transform the environment for teaching and learning” (p. 21). This was the case in Ms. Geiger’s class. As I finished the intervention and collected post-data, I noted that the educational environment was certainly different, but it was not until I returned to the classroom in late May after being away for four weeks that I realized how substantially the class had changed from my first observations in August. When I walked into the classroom on this final visit, it was clear that the students had been eagerly anticipating my return and were ready to share what they had been reading and writing, even those students who had had little prior interaction with me. I will describe the classroom as I observed it on my final visit and contrast it with what my original observations to answer the fifth question in the framework described in Chapter 1: Has the instructional environment changed as a result of the intervention?

Ricky and Isaac, two of the focal students in the study who were both reluctant writers, exemplified the transformation of the class. When I returned to the class on May 20, 2009, Ricky proudly proclaimed, “I have a really funny story to show you. Wanna read it?” As I read his story, three other students gathered around to watch my face. One asked, “Did you get to the part about the car yet?” Obviously these three classmates had all read Ricky’s story and were just as excited as he was about sharing his work. This

was a major shift from the start of the school year when students showed little interest in each others' writing and Ricky showed no interest in writing at all. Further demonstrating Ricky's change over the course of the school year was his declaration that he now liked to read. He even asked if I had a certain popular adolescent novel that he might borrow to read over the summer. This was a dramatic shift from earlier in the year when Ricky avowed that he did not like and had never liked to read.

I also observed on this final visit that Isaac, whose transformation during the intervention was described in detail in Chapter 4, had grown even more in his love for writing. He was eager to share his poem, a parody, with the class. As he went to the front of the class, a fellow student said happily, "Oh yea, sing it, Isaac! We've all heard you do it!" showing that Isaac had been sharing his work prior to this moment. Isaac answered his classmate with a smile and began singing his parody. When he sat down after sharing, Isaac immediately began working on his writing, even having to be asked by Ms. Geiger to *stop* writing while others were reading their work. Obviously, Isaac had changed tremendously since his first days in the class when he cried to avoid writing.

Isaac and Ricky were only two examples of the change that occurred in the classroom. As I surveyed the room on this last visit, I noted that everyone was writing without prodding and that several students were collaborating on their work. I also observed that the change in the educational environment was not limited to writing. The difference in students' attitudes toward reading was also apparent. After library, ten students individually approached to tell me about the books that they were reading. Interestingly, all of the books were chapter books or lengthy nonfiction; none were

picture books. Erin even pointed out a line in her novel, proclaiming, “Look, Mrs. Tracy. Alliteration!” evidencing her habit of ‘reading like a writer.’ Later five girls engaged me in a conversation about the popular *Twilight* series, showing off their copies of various books and asking which ones I had read. One girl announced in awe, “Charlotte has read them *all*.”

The minute changes that had been occurring throughout my time in the classroom had become obvious. Reading and writing had moved from something students *had* to do to something the students *wanted* to do and the shift seemed universal. No student appeared to dislike reading or writing. In short, it seemed that reading and writing were now prestigious acts and a positive transformation had taken shape in the classroom.

Unanticipated Effects of the Intervention

The data collected in this formative experiment focused on the pedagogical goal of increasing students’ reading and writing achievement and attitude, but the intervention may have produced other unanticipated effects. Reinking and Bradley (2008) explain.

Given the complexity of educational contexts and instructional practice, implementing an instructional intervention will invariably produce unanticipated effects and outcomes, some of which may be neither directly related to the intervention’s pedagogical goal nor anticipated by whatever theory guides the instructional intervention (p. 51).

There were two primary unanticipated effects in this study: an overlap of the intervention into other content areas for both the students and teacher and motivation from my presence in the classroom.

The intervention was intended to improve students' overall reading and writing. As it turned out, there was an effect on other content areas beyond language arts with multiple effects across subject areas. First, the extensive use of nonfiction models during writing workshop seemed to make students increasingly comfortable with using nonfiction texts in the content areas. Ms. Geiger explained this overlap in an e-mail correspondence:

I also noticed that the students were much more independent when it came to looking up a fact or concept in their science or social studies books. Because they had so much experience with nonfiction books, they knew to start looking in the index or table of contents to find exactly what they were looking for. I was pleased to see how this carried over for them (May 18, 2009).

Aiding students in their ability to read in the content areas is particularly important during fourth-grade when reading becomes increasingly focused on reading to learn. The ability to navigate nonfiction texts will serve students well as they continue into middle school where content area subjects are increasingly delineated and students have less reading instruction.

Beyond learning how to more effectively read nonfiction texts, students were also able to transfer their knowledge of nonfiction writing into the content areas. Ms. Geiger encouraged this through assignments and activities. For example, she had students keep math and science journals. She noted strategies in these journals that she had taught in writing workshop, such as using section headings and grouping similar information together. She also had students writing during social studies in reaction to their reading.

For example, Ms. Geiger said, “I think the quality of what the students wrote in the other subjects was better this year than it has been in the past. For example, when I asked the students to write an account of a particular battle, they were able to do that really well” (E-mail correspondence, May 18, 2009).

As seen in these examples, Ms. Geiger encouraged reading and writing throughout the school day, which is an understandable but not specifically anticipated effect that occurred outside the scheduled reading and writing block. Ms. Geiger often used modeled texts, both print and electronic, in other content areas as examples for students and she pulled material from what the students were learning in science and social studies to use during writing workshop. This seemed to generate students’ enthusiasm for other subject areas and led to a much more integrated approach to teaching than Ms. Geiger had implemented in previous years:

I brought students to the NASA site for students today. I found that this is a readable site for kids and contains links to lots of other great sites and articles having to do with nearly every topic related to the Universe. I showed the students how to get to the site and then to get to the site’s index. We were able to discuss how this looks just the index of a book, only you can click on it! We also discussed how sometimes your topic might not be listed under the word you are trying to look up. You may need to think of other names of your topic or be more specific or broad in your search. I am really excited about this site and so are the kids. I’ve had several students get lots of helpful information for their pieces from it (Teacher reflective journal, December 11, 2008).

A second unanticipated effect of the intervention occurred because of my presence in the classroom. In an e-mail correspondence, Ms. Geiger wrote:

You [the researcher] really were another huge motivator for them this year. They were always so thrilled to share their writing with you and would work for the days you would be coming to see what they were doing. There were a number of times that they weren't willing to conference with me for more than a minute or two because they really wanted to have the time to finish a section or piece before you came again so that they could show you. It has really taught me that sometimes kids really do need some kind of motivation outside of their own peers and teachers for writing. They really love knowing that someone other than me or their classmates is going to read their work. I'm definitely going to work this into my writing workshop next year. I may try to set up a schedule with parent volunteers or something in the future (May 25, 2009).

Major Findings and Implications

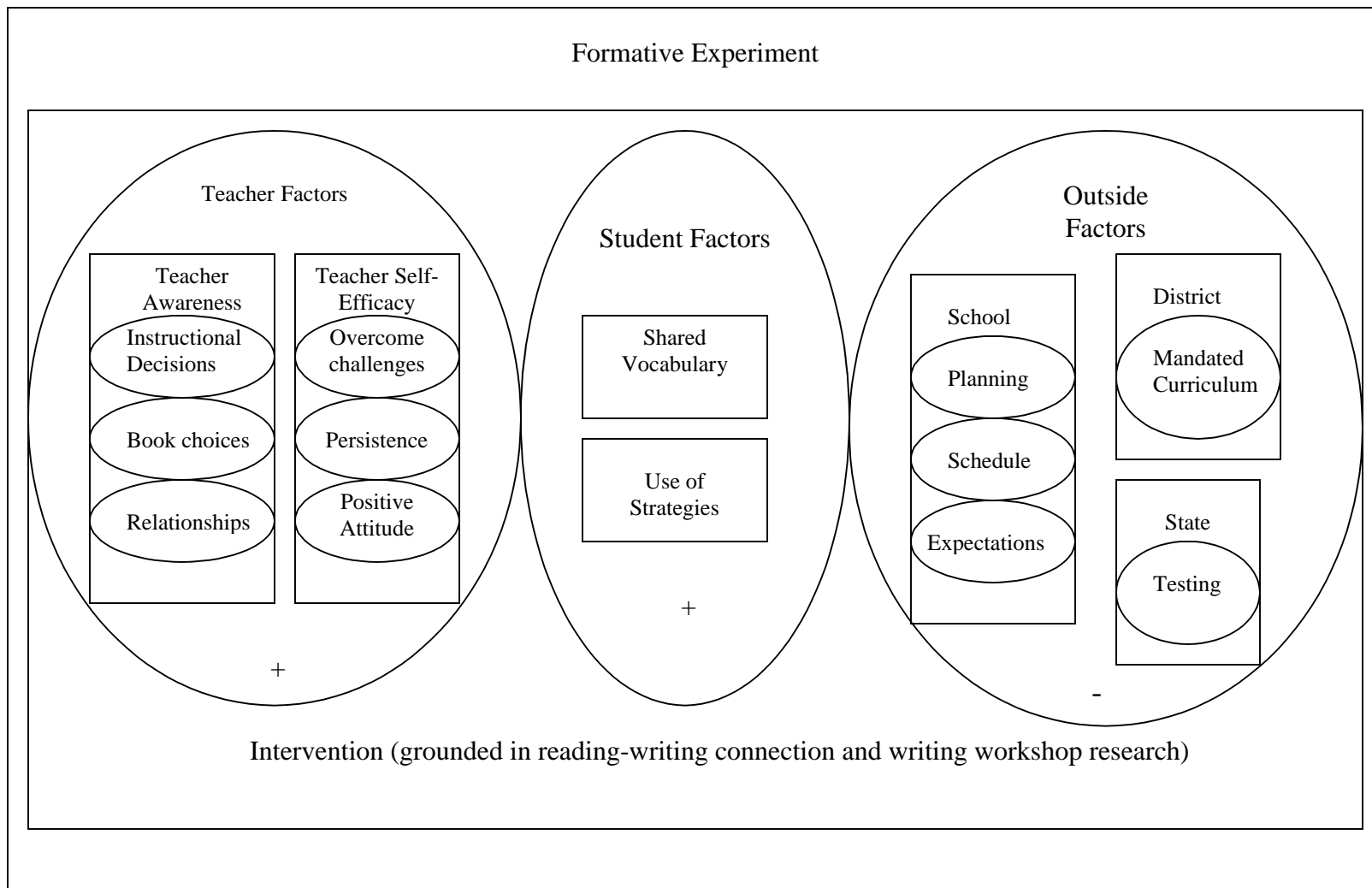
In the present study, the teacher used explicit connections between reading and writing in a nonfiction writing workshop in an effort to improve student reading and writing achievement and attitude. The results of the study are significant for multiple reasons. First and most broadly, the results support the findings of previous research that connecting reading and writing is an effective way of teaching both (Dressel, 1990; Fisher & Ivey, 2006; Lee, Collins, & Fox, 2008) and that this connection can be successfully made during a nonfiction-focused writing workshop. The results of this study are not intended to broadly generalize to all classrooms; however, they may be

particularly useful to other similar classrooms. Therefore, it is important that future research study the effects of utilizing the intervention across multiple classrooms in varying contexts to observe how results differ. Second, and more specifically, the identified factors that enhanced or inhibited the writing workshop (see Figure 5.1) hold important implications for future research and classroom practice. Each of these factors will be discussed separately.

Teacher Factors

The teacher factors discussed in Chapter 4 fell into two categories: teacher awareness and self-efficacy. Ms. Geiger's awareness of her students' needs positively affected her instruction, her choice of texts, and her relationships with students and was an integral part of her classroom and the intervention. It is unclear how effective the intervention would have been had Ms. Geiger been less attuned to her students. Ms. Geiger's willingness and ability to adjust her instruction based on her students' needs are closely tied to the concept of formative assessment. Formative assessment is "a tool teachers can use to probe students' understanding, inform instructional decisions, and develop relationships" (Kaftan, Buck, & Haack, 2006, p. 45). Unlike summative assessment, which comes at the end of a unit of instruction, formative assessment occurs during instruction and is used to guide students' learning rather than assigning a grade.

Figure 5.1. Factors enhancing or inhibiting the formative experiment and their place within the current study.



At this juncture, it is important to distinguish formative assessment from formative experiments. Both “focus on workability and fine-tuning a beta version in light of systematic data collection” (Reinking & Bradley, 2008, p. 23); however, formative experiments are distinctly different from formative assessment because they are grounded in connecting theory to practice (Reinking & Bradley, 2008). In this study, the formative experiment was designed primarily around the research on the reading-writing connection and writing workshop and was aimed at implementing these in the classroom in a way that increased student achievement and improved attitudes toward reading and writing. Unlike formative assessment, formative experiments are much more concerned with *why* an intervention does or does not work. In this case, the data collected during the formative experiment demonstrated that the intervention worked in part *because* of the formative assessment which allowed the teacher to make appropriate instructional decisions, thus enhancing the intervention. Formative assessment is not necessarily a key factor in all formative experiments.

The reason formative assessment was essential to the invention may be explained by previous research which shows that continuous, embedded assessment that is tied to instruction tends to improve student learning (Anderson, 2005; Black, 1993; Black & William, 1998; Duschl & Gitomer, 1997; Fisher & Frey, 2007; Kyle, 1997; Wiggins, 1993; Wiggins 1998). Treagust, Jacobowitz, Gallagher, and Parker (2001) suggested that formative assessment builds student-teacher relationships because students see the teacher’s awareness of them as personal interest. Anderson (2005) explained this awareness in the context of writing workshop:

A teacher who gets to know students in a writing workshop gathers information about them as writers. She then uses that information to construct multidimensional images in her mind of who the students are as writers at that point in their development. That is, through her everyday assessment, a teacher learns about students as initiators of writing. She learns about what students know about writing well. And she learns about students' writing processes (p. 141-142).

The current study affirms Anderson's understanding of the role and necessity of formative assessment in writing workshop and leads to the questions: Did the intervention itself affect the teacher's awareness? If so, how was her awareness affected by the intervention? Ms. Geiger believed that her awareness was more acute this year than in previous years due to the intervention. She attributed this increased awareness to having taught only brief units of nonfiction before this school year and to not being as comfortable with nonfiction as fiction. In an e-mail correspondence on May 21, 2009 she explained:

We read stories all of the time. Before this year, that's primarily what my read-alouds were and a lot of what we did in language arts. It's easy to find ways to connect those [stories] to what kids write. Doing the nonfiction really made me have to stop and think 'Are they getting this?' I had to really pay attention. I couldn't go back to last year's plans to see what I'd done or even ask other teachers because they hadn't focused so much on nonfiction either. I could only base that on what I saw in the kids' writing. I think that I really paid close

attention to what my students were doing and learned a lot from them since a lot of this was new to me. I really did learn a lot from my students this year and was really interested in what they could teach me which probably helped in my heightened awareness. It wasn't that I was unaware before. I just think this year made me even more aware.

Ms. Geiger's explanation that the novelty of the intervention led to heightened awareness means that future research should look at how the nature of the intervention changes when a teacher is more comfortable with nonfiction. In addition, further research should be done to study how formative assessment occurs in different classrooms. Relying on formative assessment to structure day-to-day instruction means that a nonfiction writing workshop could potentially be very different in another classroom with a different group of students.

The central role of self-efficacy in the success of the intervention supports previous research showing that self-efficacy affects motivation, achievement, and attitude (Anderson, Green, & Loewen, 1988; Ashton & Webb, 1986; Fuchs, Fuchs, & Bishop, 1992; Guskey, 1988; Midgley, Feldlaufer, & Eccles, 1989; Ross, 1992; Skaalvik & Skaalvik, 2007). Ms. Geiger strongly believed in the usefulness of writing workshop and her ability to help students. She was willing to struggle through the challenges because she believed that the workshop was the best way to reach her students. What happens if a teacher is required rather than chooses to teach using writing workshop? How does an individual's self-efficacy affect professional development in writing instruction? Further research is needed to explore the effects of mandating a writing curriculum or

instructional technique and how to increase teachers' self-efficacy in relation to writing instruction.

Student Factors

In the current study, there were two major student factors that affected the intervention: shared vocabulary and use of strategies. The significance of having a shared vocabulary raises questions: Are there specific words that make the most difference? How did the students come to share these words? What roles do listening and discussing play in students' abilities to read and write successfully in a writing workshop? Helping students acquire a shared vocabulary may have a positive affect on other areas of learning and needs further investigation.

This study also found that students need explicit instruction of strategies, as seen in previous research (De La Paz, 2005; De La Paz & Graham, 1997; MacArthur, Schwartz, & Graham, 1991; Sawyer, Graham, & Harris, 1992), as well as immediate practice in *how* to implement these strategies. Typically in writing workshop the teacher does not require students to immediately use strategies; however, the present study suggests that students may benefit from guidance in how and when to successfully use writing strategies. Attention to implementation of strategies may be important because students' writing achievement and confidence tends to grow when they are given specific strategies for improving their writing and feedback on how well they are using those strategies (Graham & MacArthur, 1988; Graham, MacArthur, Schwartz, & Page-Voth, 1992; Schunk & Swartz, 1993). This need for guidance in using strategies is consistent with research that indicates students' metacognitive activity and ability to self-regulate

are critical to their academic success (Bonitatibus, Beal, & Garrod, 1990; Georghiades, 1994; Gunstone, 1994; Hacker, 2004; Harris & Graham, 1992; Hennessey, 1993). The current investigation suggests that such ability may not be automatically achieved during writing workshop. Future research might examine explicit methods aimed at encouraging self-regulation for strategies in a nonfiction writing workshop.

Outside Factors

School, district, and state requirements created constraints such as what genres must be taught that inhibited the intervention from accomplishing the pedagogical goal of increasing students' reading and writing abilities and attitudes. Ms. Geiger became increasingly frustrated with her lack of autonomy as the year progressed and new mandates appeared. Because teacher autonomy varies across classrooms, schools, districts, and states it is important to study the effects of utilizing the intervention across multiple classrooms in varying contexts.

Summary and Considerations for Teachers

There are many books extolling the virtues of writing workshop and explaining its classroom implementation. This study supports the positive effects that a writing workshop can have on students' learning and reveals that the effectiveness of writing workshop goes well beyond implementing its major components. Considering the role of formative assessment, self-efficacy, students' shared vocabulary and ability to use strategies, and outside influences, it is likely that no two writing workshops will function exactly the same. It is important to continue to learn more about writing workshops in multiple settings and how focusing on nonfiction texts affects student achievement and

attitude. This study helps lay the foundation for future investigations on nonfiction writing workshops in multiple contexts and enables researchers to concentrate on particular aspects and related outcomes of the writing workshop. Likewise, this investigation gives teachers some questions to ask as a starting point for implementing a nonfiction-based writing workshop in their own classrooms, including: (a) How can I best assess my students' writing to guide daily instruction and conferencing? (b) What are my specific goals of writing instruction and my beliefs about my ability to accomplish these goals? (c) How can I help my students acquire a shared vocabulary to help them understand and communicate about writing? (d) What methods would help my students utilize strategies and self-regulate their use? (e) What do my school, district, and state require of me? and (f) How will these requirements affect my writing instruction?

Limitations

Although this study adds to the literature on the reading-writing connection, writing workshop, and formative experiments, the results must be interpreted in light of its limitations. The most prominent limitation is that this study was conducted in one classroom and is not generalizable to classrooms in much different contexts and with much different characteristics. Further, this study did not use a control class so there is no direct comparison to another classroom in a similar context. The lack of a control classroom weakens any conclusions that can be drawn from comparing the baseline and post-intervention quantitative data. Despite the obvious limitations that only examining one class causes, the attempt to reach the pedagogical goal of this study helps inform classroom teachers and future researchers.

Limiting the study to a single school year also constrained the research. First, scores for end-of-the-year testing are not available until the following school year, meaning that the time frame did not allow for these scores to be used as a method of determining progress. I used the Stieglitz Informal Reading Inventory (SIRI) instead. Although the SIRI was a reasonable measure of progress for this study, enabling me to have immediate pre- and post-intervention data, informal reading inventories are not normative or standardized measures. Second, the time frame of the study did not allow me to ascertain the stability of the students' progress.

Finally, I did not collect quantitative data on the students' or teacher's sense of self-efficacy. This would have given additional information to explain the effect of self-efficacy as noted through the qualitative data.

Reflections on the Methodology of Formative Experiments

From my first encounter with formative experiments, I was hooked. Formative experiments are a natural fit with my pragmatic nature and my desire to find instructional methods that are useful in the classroom. Formative experiments also diminish the difficulties that often arise between teachers and researchers. Not all researchers will be in agreement with the methodology of formative experiments. Some may question their worth when formative experiments cannot be largely generalized or their rigor when there are no definitive and unanimously agreed-upon guidelines. However, the results of this study exemplify why formative experiments are useful and why strict guidelines are difficult to develop. The intervention applied in this study cannot be separated from its context because all of the factors that enhanced or inhibited the intervention were

explicitly tied to the context from which they came. The natural fluctuation of the classroom is part of what made instruction effective and would be impossible to control. This is not to say that formative experiments are more (or less) valuable than traditional methodologies; only that formative experiments have the potential to be a useful component of education research.

A Final Word

It is my hope that this study gives a baseline for others interested in learning how to better utilize nonfiction in the writing workshop in order to advance students' reading and writing, as well as helping teachers implement their own writing workshops. The present study illustrates the importance of the teacher's role in writing workshop and some ideas of how such roles may be enhanced. Based on this study, my recommendations for practitioners are as follows: (a) extensively use nonfiction texts during writing workshop as models for writing and as a means of explicitly connecting reading with writing; (b) maximize awareness of students' needs and interests and use this awareness to plan for topics of instruction, to select texts, and to build relationships with students; (c) recognize that a nonfiction-focused writing workshop has challenges that will require persistence and determination; (d) focus on and frequently use words during writing workshop that are important for helping students learn and discuss the content of writing; (e) highlight the application of these writing content words in modeled texts; and (e) incorporate meaningful practice of strategies into writing workshop.

APPENDICES

Appendix A

Heathington Intermediate Attitude Scale

Directions: Read the following statements. On the answer sheet rate your agreement with each statement as strongly disagree (SD), disagree (D), undecided (U), agree (A), or strongly agree (SD).

1. You feel uncomfortable when you're asked to read in class.
2. You feel happy when you're reading.
3. Sometimes you forget about library books that you have in your desk.
4. You don't check out many library books.
5. You don't read much in the classroom.
6. When you have free time at school, you usually read a book.
7. You seldom have a book in your room at home.
8. You would rather look at the pictures in a book than read the book.
9. You check out books at the library but never have time to read them.
10. You wish you had a library full of books at home.
11. You seldom read in your room at home.
12. You would rather watch TV than read.
13. You would rather play after school than read.
14. You talk to friends about books that you have read.
15. You like the room to be quiet so you can read in your free time.
16. You read several books each week.
17. Most of the books you choose are not interesting.
18. You don't read very often.
19. You think reading is work.

20. You enjoy reading at home.
21. You enjoy going to the library.
22. Often you start a book, but never finish it.
23. You think that adventures in books are more exciting than TV.
24. You wish you could answer the questions at the end of the chapter without reading it.

Appendix A continued

Heathington Intermediate Attitude Scale Answer Sheet

1. SD D U A SA

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2. SD D U A SA

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3. SD D U A SA

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4. SD D U A SA

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5. SD D U A SA

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6. SD D U A SA

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7. SD D U A SA

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8. SD D U A SA

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9. SD D U A SA

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10. SD D U A SA

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11. SD D U A SA

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12. SD D U A SA

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13. SD D U A SA

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14. SD D U A SA

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15. SD D U A SA

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16. SD D U A SA

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17. SD D U A SA

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18. SD D U A SA

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19. SD D U A SA

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20. SD D U A SA

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21. SD D U A SA

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22. SD D U A SA

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23. SD D U A SA

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24. SD D U A SA

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Appendix B

Focal Students' Interview Questions

1. What kind of reader would you say you are?
2. How has your reading changed during this year?
3. How would you explain to a friend what nonfiction is?
4. Do you like to read nonfiction?
5. Do you like to write nonfiction?
6. Describe how you thinking reading and writing are related.
7. What has been your favorite part of writing this year?
8. Do you think writing has helped you with your reading? How?
9. If you could change anything about reading and/or writing in your classroom, what would it be?

Appendix C

Teacher Interview Questions

1. Tell me why you have chosen to use writing workshop in your class? What are the benefits?
2. What are the difficulties of writing workshop?
3. What about this year? What do you feel really enhanced or inhibited your writing workshop?
4. How do you feel reading and writing are related?
5. How do you utilize this connection in your classroom?
6. If you could change anything about how you taught reading and/or writing this year, what would it be?
7. Your class really focused on nonfiction this year. Do you feel this was effective? Why?
8. What do you think your students would say about what they “got” out of writing and reading this year?

Appendix D

Fall/Spring Writing Prompts

Time to Write

Think about a talent or skill that you wish you had. It may be a skill such as telling stories, making people laugh, or being a good listener. Write about this talent or skill, explaining why you think it is important and giving reasons and examples to support your points. Your writing will be read by interested adults.

REMEMBER:

- You may make a graphic organizer (such as web, list, or outline) on the planning space on the back of this sheet.
- Write your rough draft on the white pages marked “Draft.”
- You may use a dictionary or thesaurus.
- Your final draft should be written on the colored pages marked “Final.”

DOES YOUR FINAL RESPONSE:

- have an introduction, body, and conclusion?
- stay on topic?
- have interesting and clear ideas?
- use details and descriptions?
- have correct spelling?
- have correct punctuation and capital letters?

REMEMBER:

- ◆ Do not write a poem or song. If you do, it will not be scored.
- ◆ Revise and edit your draft and make your response long enough for the reader to understand your ideas.
- ◆ Read your final draft and make any changes neatly.
- ◆ **Use only the colored pages to write your final draft.**

Appendix D continued

Time to Write

All of us face challenges in life, such as making new friends, learning to play a sport or an instrument, or even dealing with an illness or difficult problem. Explain to an interested adult about a challenge that you or someone you know has faced, and also explain what lessons have been learned from these challenges.

REMEMBER:

- You may make a graphic organizer (such as web, list, or outline) on the planning space on the back of this sheet.
- Write your rough draft on the white pages marked “Draft.”
- You may use a dictionary or thesaurus.
- Your final draft should be written on the colored pages marked “Final.”

DOES YOUR FINAL RESPONSE:

- have an introduction, body, and conclusion?
- stay on topic?
- have interesting and clear ideas?
- use details and descriptions?
- have correct spelling?
- have correct punctuation and capital letters?

REMEMBER:

- ◆ Do not write a poem or song. If you do, it will not be scored.
- ◆ Revise and edit your draft and make your response long enough for the reader to understand your ideas.
- ◆ Read your final draft and make any changes neatly.
- ◆ **Use only the colored pages to write your final draft.**

Appendix E

Description of National Writing Project Scoring Categories

Scoring Category Descriptions

Content (Including Quality and Clarity of Ideas and Meaning)

The content category describes how effectively the writing establishes and maintains a focus, selects and integrates ideas related to content (i.e., information, events, emotions, opinions, and perspectives) and includes evidence, details, reasons, anecdotes, examples, descriptions, and characteristics to support, develop, and/or illustrate ideas.

Structure

The structure category describes how effectively the writing establishes logical arrangement, coherence, and unity within the elements of the work and throughout the work as a whole.

Stance

The stance category describes how effectively the writing communicates a perspective through an appropriate level of formality, elements of style, and tone appropriate for the audience and purpose.

Sentence Fluency

The sentence fluency category describes how effectively the sentences are crafted to serve the intent of the writing, in terms of rhetorical purpose, rhythm, and flow.

Diction (Language)

The diction category describes the precision and appropriateness of the words and expressions for the writing task and how effectively they create imagery, provide mental pictures, or convey feelings and ideas.

Conventions

The conventions category describes how effectively the writing demonstrates age-appropriate control of usage, punctuation, spelling, capitalization, and paragraphing.

Appendix F

Sample Writing Lesson Plans

Memoir: The Art of Writing Well

15 Days

(Lessons modified from: Memoir: The Art of Writing Well by Lucy Calkins)

Standards: 4-4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 5.2

Lesson 1: Uncovering Life Topics

EQ – How do writers come up with ideas for their writing?

Connection: Remind students of their personal narratives that they just turned in. Discuss as a class what went well and what we can work on as writers together. Tell students that in this unit, they will create a memoir. Discuss the characteristics of a memoir.

Teaching: Tell children that a writer once told you that most of us have a few topics we revisit repeatedly, and explain that this has been true for your writing. Explain that when writers want to find Life Topics, we reread our writing notebooks looking for the few topics or patterns that underline our entries.

Active Engagement: Ask children to reread their entries in their writer's notebook looking for underlying Life Topics, and to write an entry about what they find.

Link: Remind students that in this unit, they will need to invent ways to find their Life Topics. Send students off to write independently while teacher conferences with select students.

Lesson 2: Writing Small About Big Topics

EQ – How do writers write focused stories about big ideas?

Connection: Celebrate the work that students did yesterday rereading their notebooks, finding Life Topics that feel huge and significant. Remind children that earlier they learned that writers do not write about big watermelon topics but instead about small seed stories. Invite children to wrestle with the fact that their Life Topics resemble watermelon topics. Tell children that the bigger the topic, the smaller one will need to write.

Teaching: Suggest that writers need to write with topics that are both big...and small. Share a text in which the writer has used tiny details to convey a Life Topic. You can use any memoir to demonstrate this. (See attached list sent along with this unit).

Active Engagement: Invite children to think of and to collect examples of texts where the writer has used tiny details to convey a big Life Topic. (Again, see attached list sent along with this unit).

Link: Send children off to write with generalizations and particulars. Tell them ways they can use strategies they've learned from the previous unit to generate writing that is both gigantic and tiny. Send students off to write independently while teacher conferences with select students.

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