THE IMPACT OF WRITING ON STUDENT ACHIEVEMENT

Jennifer W. Waring

A Thesis Submitted to the
University of North Carolina Wilmington in Partial Fulfillment
of the Requirements for the Degree of
Master of Education

Watson School of Education

University of North Carolina Wilmington

2007

Approved by

Advisory Committee

_____Howard V. Coleman_____   _____Al O'Briant_____

_____Karen S. Wetherill_____
Chair

Accepted by

_____
Dean, Graduate School

TABLE OF CONTENTS

ABSTRACT

The purpose of this study was to evaluate the impact of writing on student achievement. Administrators and educators are constantly looking for ways to increase student achievement, especially since the development of No Child Left Behind. An extensive literature review was conducted as the basis of this study. It showed that regardless of the content area, writing is a tool that can be used in a variety of ways to increase student understanding and learning of subject matter. Students experienced increases in the amount of writing they produced and the amount of writing instruction they were provided. Reading End-of-Grade Test results were compared between eighth graders for two different academic years to see the impact of writing on student achievement. It was found that the students who were subjected to the increase in writing and writing instruction in their language arts class scored higher on standardized test than those students from the previous year who did not received the treatment.

DEDICATION

I would like to dedicate this thesis to my husband, Robert, whose continuous support and encouragement has helped and meant more to me than he will ever know. I would also like to thank my family for being my biggest supporters throughout my graduate school experience.

LIST OF FIGURES

INTRODUCTION

The purpose of this study is to investigate the impact of writing on student achievement. Writing and writing instruction has traditionally been the responsibility of the English teacher in education. However, with more demands on students to demonstrate proficiency in all subjects (End-of-Grade testing for eighth grade science will begin in the 2007-2008 academic year) and accountability standards steadily increasing, educators must look for ways to increase student achievement. Writing is one tool that can be implemented in classes to accomplish this goal.

The establishment of No Child Left Behind (NCLB) has forced many administrators and educators to focus more attention on achievement scores and ways to improve those scores. "Under the law's most visible stipulation, states must test public school students in reading and math every year from third through eighth grade, plus once in high school, and reveal the results for each school or face a loss of federal funds" (Wallis & Steptoe, 2007). No Child Left Behind was established in response to the growing number of children in America who are "segregated by low expectations, illiteracy, and self-doubt" (The White House, 2007). While there are many positives to this legislation, and just as many negatives, it has brought about awareness of current educational practices and the need to focus more on children and their academic needs to increase student achievement.

Over the past three years, a rural school in southeastern North Carolina has noticed that while it has achieved the goals set forth by NCLB and the ABC's (North Carolina's accountability standards), it needs to focus more on its reading scores in the sixth and eighth grades. The seventh grade scores are continuously showing growth year

after year, while the sixth and eighth grade scores are showing no growth or even dropping. During a discussion with the language arts department and the principal, it was noted that the only real difference in the curriculum between the grade levels is the emphasis that is placed on writing in seventh grade due to the state writing test. The question of this study developed, what impact does writing have on student achievement?

The level of achievement attained by a student on the Reading and Math End-of-Grade assessments are determined by the ranges, approved by the State Board of Education for the North Carolina End-of-Grade Tests, of the developmental scale scores (NCDPI, 2007). In order for students to be labeled as proficient (scoring at or above grade level), they must score a Level III or a Level IV on both tests.

Writing is defined by Dictionary.com as "the act of a person or thing that writes." Writing is not merely the simple task of using paper and pen or pencil to connect letters to form words. Instead, it is using words to form larger thoughts that demonstrate understanding. It allows a person to see on paper what their brain is processing or thinking. Wikipedia (2007) states:

> Writing, more particularly, refers to two activities: writing as a noun, the thing that is written; and writing as the verb, designates the activity of writing. It refers to the inscription of characters on a medium, thereby forming words, and larger units of languages, known as texts. It also refers to the creation of meaning and the information thereby.

Writing can be placed into two categories: formal and informal. Formal writing relies on the writing process. The writing process is a series of five steps that are used to produce a piece of written work that clearly conveys the thoughts and ideas of a writer. The five steps of the writing process are: pre-writing, rough draft, revision, editing, and publishing. Attention is given to each step to ensure the writer produces the best piece of

writing possible. Informal writing does not have any constraints. It can be done to prepare for formal writing, although it is completely separate. Informal writing can also be called freewriting in that it does not need to be grammatically correct, spell checked, or written neatly in complete sentences that produce outstanding paragraphs.

Both formal and informal writing require instruction for students to be successful and to use them in the most meaningful ways. The instruction provided to the students should be relevant and specific to the content/course and the purpose. The writing instruction would consist of providing the students with daily opportunities to participate in meaningful writing, relating to text, which requires a higher level of thinking than multiple choice or one-word answers (Daniels, et al., 1998). Comprehension is simply having a full understanding of the text that you have read. There are a variety of tasks that have characteristics of writing and comprehension (Spivey, 1989).

Chapter 2 of this study is a review of available literature. Literature presented in this review focuses on current educational mandates, student achievement, Writing Across the Curriculum, and the purpose of writing for comprehension. The literature review shows that writing is a tool that can be used in any subject area to increase comprehension. In chapter 3, the methodology is thoroughly explained. This study hypothesized that writing does not significantly impact student achievement. This null hypothesis will be explained in operational terms in this chapter. Specific information about the comparison groups and data for each group are presented. Chapter 4 contains specific results and findings that resulted from this study. Chapter 5 analyzes the results presented in chapter 4 and discusses conclusions and implications that can be made in relation to the field of Curriculum, Instruction, and Supervision.

REVIEW OF LITERATURE

Overview

At a time when education is being viewed through a magnifying glass, educators, administrators, parents, and politicians are all focused on ways to increase student achievement. No Child Left Behind established high standards and accountability for education, "but policy decisions are too often made without considering the importance of students' writing proficiency to overall achievement across subject areas" (Applebee & Langer, 2006, p.1).   As a result of No Child Left Behind, Applebee and Langer (2006) state:

It is also possible that the national focus on high stakes tests has turned teachers' attention to students' retention of specific content rather than to ways students think with and write about that content, despite the fact that studies have shown that certain types of writing can aid students' understanding and retention of content.(p.15)

"Writing is, in fact, one of the best tools for learning any material because it activates thinking" (Zemelman et al., 1998, p.63). Since writing is viewed this way by many in the field of education, it should be used in a way that will provide the maximum contribution to learning and student achievement.

This review of literature looks at No Child Left Behind and the results of this legislation. The categories of writing are discussed to provide a look into the types of writing that are available to increase student achievement. At this point, the review focuses on the state of writing and writing instruction. These are discussed in detail because of the belief that "much of the knowledge students need to gain about writing is procedural knowledge; specifically, students need to learn how to write in a variety of ways for a variety of purposes" (Graves et al., 1998, p.29). Following this, the roles and

benefits of writing in the various content areas is examined. This research leads one to

look at writing as a way to increase student achievement in all content areas.

Results of No Child Left Behind

No Child Left Behind established goals of high standards, accountability for all,

and the belief that all children can learn, regardless of their background or ability. The

purpose of NCLB is to ensure that all children have fair and equal opportunities to reach

proficiency (scoring at or above grade level) on state academic achievement standards.

Adequate Yearly Progress (AYP) focuses on all students and subgroups of students in

schools, school districts, and states, with a goal of closing achievement gaps and

increasing proficiency to 100 percent. These goals are to be achieved no later than the

2013-2014 academic school year (NCDPI, 2007).

The objectives of No Child Left Behind as stated by The White House (2007) are:

1. Achieving excellence through high standards and accountability.
2. Improving literacy by putting reading first.
3. Improving teacher quality.
4. Improving math and science instruction.
5. Moving Limited English Proficient students to English fluency.
6. Promoting parental options and innovative programs.
7. Encourage safe schools for the 21st century.
8. Enhancing education through technology.
9. Providing impact aid.
10. Encouraging freedom and accountability.(pp.1-2)

The Associated Press (2006) reported that in May of 2006, 1,700 schools were

ordered to restructure due to failing to meet the requirements set forth by NCLB. "In

perspective, the total amounts to 3 percent of roughly 53,000 schools that get federal

poverty aid and face penalties under the No Child Left Behind law" (The Associated

Press, 2006). The Associated Press (2006) also reported that schools "were deliberately

5

not counting the test scores of nearly 2 million students" making it easier for them to meet their yearly goals. The Associated Press (2007) reported that one year later, the number of schools failing to meet standards set forth by NCLB had grown to 2,300. These schools now face restructuring, which could mean "firing principals, moving teachers, and calling in turnaround specialists" (The Associated Press, 2007). The increase in the number of schools failing could be a direct result of the fact that "the standards used by states to measure compliance with NCLB are all over the map" as shown in Figure 1 (Political Animal, 2007).
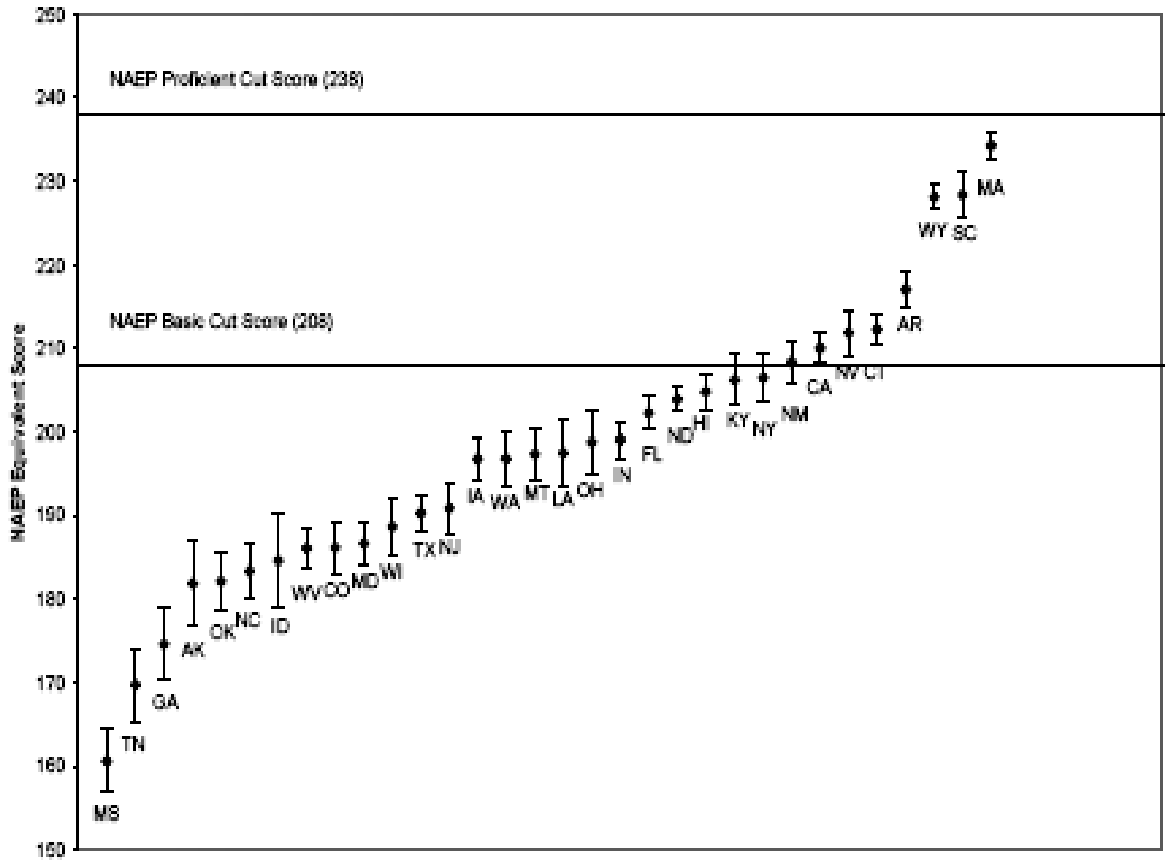
Figure 1. Comparison of state standards to National Assessment of Education Progress (NAEP) "basic achievement level" for 32 states in 4th grade reading.

Formal and Informal Writing

　　　　Writing can be classified into two categories: formal and informal. Each

category serves specific purposes in education. Formal writing relies on the writing

process to produce a well-written, clear, thought-out response. The writing process is

composed of five steps: prewriting, drafting, revision, editing, and publishing.

Prewriting is where ideas and facts are gathered. Drafting is the first shot at writing the

piece. Revision is where one looks for ways to improve the work. Editing is where

mistakes are found and corrected, whether grammatical or spelling. Finally, publishing is

where the final draft is produced and ready for the appropriate "audience". A study

conducted by Applebee and Langer (2006) on the association of strategies with

achievement showed that the association between "making changes to fix mistakes" and

achievement was by far the strongest (p.24). Formal writing typically takes the shape of

essays, explanation and analysis papers, and research reports. According to the North

Coast Institute (2007) formal writing should possess the following characteristics: (1)

focus on the issue, not the writer, (2) choose words with precise meanings, (3) avoid

using slang, jargons, clichés, and abbreviations, and (4) make your claims tentative rather

than definite (p.1).

　　　　Informal writing is the opposite of formal writing. It is not meant to be graded

and therefore, is not limited by any constraints. Informal writing is typically done by a

student for their own purposes, such as, to learn from reading, to better understand ideas,

and to explore or personally engage in what they are reading (Graves, Juel, & Graves,

1998). It is freewriting, giving the writer the freedom to explore ideas without worrying

about making or correcting any mistakes. Empire State College (2007) states:

Specifically, informal written language serves:

1. to develop abilities: the abilities to define, classify, summarize, for example; to question; to deconstruct complex patterns; to generate evaluative criteria; to establish inferences; to imagine hypotheses; to analyze problems; to identify procedures.
2. to develop methods: for example, methods of close, inquisitive, reactive reading; of recording and reporting data (observing); of organizing and structuring data into generalizations; of formulating theories; and, most importantly, of recognizing and applying the "methods" themselves.
3. to develop knowledge: knowledge about central concepts in a course, but also, for example, knowledge about one's own problem-solving, thinking, learning, language, about knowledge itself ("metacognition"), about the broad aims and exact methods of discipline.
4. to develop attitudes: for example, attitudes toward learning, knowing, oneself, one's work; toward mistakes and errors; toward the knowledge and opinions of others; the attitudes that affect behaviors and, therefore, aptitudes.
5. to develop communal learning: encouraging, for example, open exploration and discovery in a community of inquiry, rather than isolated competition; to promote "connected," not separated, teaching and learning; to develop active listening; to teach through tasks, rather than just through data; and, finally to locate the motivation for learning not in the "relevance" of the subject or in the performance of the teacher but in the social dynamic of the learning community.
6. to develop, in summary, general capacities for learning: the ability to question; to create problems (as well as solutions); to wonder; to think for oneself while working with others, for example.(p.1)

In the simplest form, informal writing is used in note-taking, lists, diagrams, summaries, and journaling. Informal writing is meant to be used as a learning tool, not as an assessment. "Its basic purpose is to help students to become independent, active learners by creating for themselves the language essential to their personal understanding" (Empire State College, 2007, p.1).

State of Writing and Writing Instruction

In data collected from the National Center for Education Statistics in 2003, Special Connections (2007) states:

According to data from the 2002 National Assessment of Educational Progress (NAEP), only 28% of fourth graders, 31% of eighth graders, and 24% of twelfth graders performed at or above a proficient level of writing achievement for their respective grade level (p.1).

Students are spending less time on writing as reported by Applebee and Langer (2006) that "in 2005, 48% of students spent 11-40% of time on writing instruction, with 11% spending less" (p.5). Students are being set up for failure in high school and college since they do not possess the skills needed for writing at these levels. Writing is no longer the sole responsibility of the English department at any school and the ideology about writing and writing instruction must change. Special Connections (2007) states:

This increasing diversity of the school-aged population has occurred within the context of the standards-based education movement and its accompanying high-stakes accountability testing. As a consequence, more demands for higher levels of writing performance and for demonstration of content mastery through writing are being made of students and their teachers, while teachers are simultaneously facing a higher proportion of students who struggle not only with composing, but also with basic writing skills (p.1).

Teachers in all content areas see writing, or rather the process of grading student writing, as a laborious chore. Although the majority of the time it cannot be browsed over, quick checked, or thrown into a scantron machine, it does have the ability to increase student learning in all content areas resulting in increased student achievement. Effective writing also does not only consist of longer essay writing. Quick writes, which take just a couple of minutes, can be just as effective in some cases. Strong writing is capable of promoting ability in reading when there is a balance of instruction and various writing techniques are implemented (Daniels, Hyde, & Zemelman, 1998). Each core subject (math, language arts, science, and social studies) involves reading and increasing students' abilities in reading by implementing writing can only help to increase their abilities in those subject areas.

However, it is not enough to tell students to write. They must be instructed on

how they are expected to write and for what purpose. Russell (1992) states:

> Faculty members and administrators have long agreed that every teacher should
> teach writing but since the turn of the century, the American education system has
> placed the responsibility for teaching writing outside the disciplines, including, to
> a large extent, the discipline of "English" or literary study (p.23).

According to Bromley (1999) writing instruction, in any school, must be comprised of

the following key components for it to be reliable:

1. Standards and assessments that guide teachers and students.
2. Large blocks of time for reading, writing, talking, and sharing.
3. Direct instruction in composing and conventions.
4. Choice and authenticity in writing for a variety of purposes and audiences.
5. Writing to construct meaning across the curriculum in a variety of forms
   (p.153).

Special Connections (2007) provides the following ten key attributes of strong

writing instruction:

1. an established routine that permits each student to become comfortable
   with the writing process and move through the process over a
   sustained period of time at his/her own rate
2. a focus on authentic writing tasks and meaningful writing experiences
   for personal and collective expression, reflection, inquiry, discovery,
   and social change
3. a common language for shared expectations and feedback regarding
   writing quality (e.g., traits)
4. explicit instruction designed to help students master craft elements
   (e.g., text structure, character development), writing skills (e.g.,
   spelling, punctuation), and process strategies (e.g., planning and
   revising tactics)
5. procedural supports such as conferences, planning forms and charts,
   checklists for revision/editing, and computer tools for removing
   transcription barriers
6. a sense of community in which: (a) risks are supported; (b) children
   and teachers are viewed as writers; (c) personal ownership is expected;
   and (d) collaboration is a cornerstone of the program
7. integration of writing instruction with reading instruction and content
   area instruction

8. a cadre of trained volunteers to respond to, encourage, coach, and celebrate children's writing, which helps classroom teachers give more feedback and potentially individualize their instruction
9. resident writers and guest authors who share their expertise, struggles, and successes so that children and teachers have positive role models and develop a broader sense of writing as craft
10. opportunities for teachers to upgrade and expand their own conceptions of writing, the writing process, and how children learn to write, primarily through professional development activities, but also through being an active member of a writing community (pp.2-3).

These attributes can be implemented and successful at any grade level and with any content area.

Students must be instructed on how they are to write and what their final product should resemble. The focus for teaching writing tends to shift from time to time. It has gone from focusing on the necessary skills and the writing produced to the writing process to more recently, a balance of product and process (Bromley, 1999). As a result of the continuous shift in the focus for writing instruction, Bromley (1999) suggests that the answer is "borrowing the best from both product and process approaches to develop writers who are fluent, competent, and independent" (p.152).

Students should be taught a variety of ways to implement writing to increase learning in all content areas. Writing strategies such as underlining and note-taking should be used as ways to highlight and organize important points (Graves, Juel, & Graves, 1998). Regardless of the length of the writing, students should be instructed on how to produce the writing and techniques should be modeled accordingly. The instruction of writing in content areas is no different from any other material that is taught and it too deserves attention.

Writing and Reading Comprehension

        Throughout the history of education, writing and reading comprehension have been viewed as opposites that needed to be addressed separately (Spivey, 1989). Even though any dictionary will define literacy as "the ability to read and write," educators have long been dividing the two and becoming experts in one area or the other. Atwell (1998) has even admitted to being guilty of this, as she saw herself as an expert in reading not writing.

        With this appearing to be the preferred method in education, individuals such as Atwell (1998), Knoeller (2003), and Collins & Lee (2005) have taken it upon themselves to investigate the matter and determine which method students benefit from the most. Knoeller (2003) sees writing, regardless of the format, as having the purpose of interpreting literature in the classroom. In her article on using creative writing in teaching literature, she states that, "Reading informed my writing; writing informed my reading" (Knoeller, 2003, p. 42). According to Spivey (1989), it only makes sense that writing would improve reading comprehension since writing and reading share some similarities in processing. Graves et al., (1998) believe that, "reading and writing are natural companions, two activities that both build on and reinforce each other" (p.29). This also seems to sum up the ideas and conclusions of others that have conducted research and studies on this topic.

        Writing Intensive Reading Comprehension (WIRC) is a federal grant-funded three-year study that is testing a curriculum that places writing in service of reading and writing achievement (Collins & Lee, 2005). This study is looking at the achievement levels of 4th and 5th graders in low-performing urban schools by teaching reading and

writing concurrently and interactively. At the end of the first year of this study, it was concluded that WIRC results in higher achievement levels than the previous practice of separating reading and writing (Collins & Lee, 2005). The students experienced an increase in their reading achievement scores and in the quantity of their writing; however, the quality did not experience such improvements. Collins and Lee (2005) recognize that reading and writing should be connected in the classroom because they are connected developmentally. Teaching reading and writing together is "more effective and more efficient than teaching them separately" (Graves et al., 1998, p.29). Atwell (1998) came to the same conclusions when she observed her students being excited about reading and dreading writing to being excited about both areas and using writing to make sense of their reading. Reading comprehension would be improved just by the increased level of motivation the students now possess. A once dreaded task has been incorporated into something they enjoy which makes it appear to be less of a chore.

Writing has typically been a task assigned at the end of reading for students to tell what they remember about their reading. Students read a selection and answer some questions, most of the time without looking back in the text and with minimal effort. Collins and Lee (2005) refer to this as the "Read first, Write later" philosophy. This type of instruction is not conducive to reading comprehension because there is no evidence of the students truly understanding what they have read. It only proves that the students possess the ability to regurgitate information, which is the lowest level of learning according to Bloom's Taxonomy.

There are many writing strategies that can be incorporated to improve reading comprehension because they encourage students to create structure and meaning in

literature. "Writing is, in fact, one of the best tools for learning any material because it activates thinking" (Daniels et al., 1998, p. 63). The WIRC study developed think sheets that were used to help students identify and record information that would be necessary in completing a specified task (Collins & Lee, 2005). Thinksheets have developed into another strategy that they have named "two-handed reading." During this process, students have one hand on the text they are reading and one hand on their thinksheets in order to construct meaning from their reading. They are using two components of instruction, reading and writing, simultaneously. North Carolina's Department of Public Instruction (2003) has also listed several strategies such as graphic organizers and KWL (**K**now, **W**ant to know, and **L**earned) charts to be used before, during, and after reading to increase comprehension. All of these strategies incorporate writing into reading allowing students to move deeper inside written text while at times developing connections between various texts (Atwell, 1998).

The benefits of using writing to increase reading comprehension seem to outweigh those of separate instruction. Allowing students to experiment with written language is a way of advancing reading achievement while mastering the conventions of language (Daniels et al., 1998). According to Knoeller (2003), creative writing about literature contributes to "more insightful formal analysis" therefore, increasing comprehension. The International Reading Association (IRA) and the National Council of Teachers of English (NCTE) also must see the benefits of teaching reading and writing together because half of their standards reflect this concept (Daniels et al., 1998).

Writing and Other Content Areas

The increase in the number of assessments given to students and the ways that those assessments are changing in format only support the need for writing in all content areas. Applebee and Langer (2006) state that the "embedded uses of writing in assessments within the various academic disciplines send a strong message about the importance of writing in disciplinary contexts" (p.13). It is important for all educators according to Bromley (1999) to see the "importance of writing as a learning tool across the curriculum" because she has "discovered that when students write in a variety of forms in the content areas, they construct new meaning and demonstrate their content knowledge too" (p.165).

Most writing that occurs in the content areas of science, social studies, and math involve summarizing the information and point of views expressed by the teacher and/or textbook. This is one of the lower levels of learning in that students are just regurgitating information that they were given and have not experienced true learning. While conducting a study on the subject, Langer (1992) discovered "that students were rarely challenged to explain their interpretations or encouraged to examine evidence on which they had based their conclusions" (p.70). Writing on a regular basis in the various content areas is a "powerful strategy for learning subject matter" (Bromley, 1999, p.165). Moore, Moore, Cunningham, and Cunningham (1986) agree with this train of thought and state, "writing researchers, theorists, and practitioners generally agree that as students improve their writing skills, they develop a deeper understanding of the subjects they write about" (p. 106).

Regardless of what students are reading for any content area, the more they write about their reading, the better equipped they will be to truly discuss their thoughts and knowledge during class seminars (Anson, 2002). Anson (2002) states:

> Many faculty who have newly incorporated writing into their courses find that students become more active learners, more thoughtful readers, and more engaged participants in class as a result of putting their knowledge, uncertainties, speculations, and intellectual connections into words on a page (p.x).

Teachers in every content area can use writing as a method of learning. Writing-to-learn strategies can be incorporated at any time during a class to "help students inquire, clarify, or reflect on the content" (Fisher, Frey, & Williams, 2002, p.72). Portfolios are another strategy that can be incorporated into classes to promote learning. Porter and Cleland (1995) believe that reflection allows students to:

1. examine their learning process.
2. take responsibility for their own learning.
3. see "gaps" in their learning.
4. determine strategies that support their learning.
5. celebrate risk-taking and inquiry.
6. set goals for future experiences.
7. see changes and development over time (p.36).

Written reflections are a powerful tool that can easily be implemented into classes. According to Fisher et al. (2002) "writing helps students think about the content, reflect on their knowledge of the content, and share their thoughts with the teacher" (p.72).

Fulwiler (1986) wanted teachers to understand "that the act of composing a piece of writing is a complex intellectual process and that writing is a mode of learning as well as communicating" (p.21). The purpose of writing is to explore, communicate, and records ideas. These three things should occur in all classrooms if learning is to take place. Writing allows students to fully extend and expand ideas because they can be seen and are not easily forgotten (Fulwiler, 1986).

Zemelman et al. (1998) believe "learning science means integrating reading, writing, speaking, and math" (p.118). LaBonty and Danielson (2005) conducted a study in which poems were used to develop meaning in science. They found writing to be extremely relevant to science. LaBonty and Danielson (2005) state "first, writing is a vehicle for thinking; second, writing is intimately connected with reading; third, writing is uniquely individual; and fourth, writing is an effective means of studying" (p.30). They also discovered that "the unique thoughts and experiences of the individual come to life on paper as students learn to take ownership and control of their learning" while "understanding scientific content is enhanced when students are required to explain scientific phenomena in writing" (LaBonty & Danielson, 2005, p.31). Writing poetry in science helped the students to develop a level of competence in figurative language, "a precursor to the abstract thinking necessary for success in science" (LaBonty & Danielson, 2005, p. 32). In this study, poetry was the method used for the children to communicate what they had learned. This method allowed the learning to be taken to a higher level than simply answering multiple choice questions. Zemelman et al. (1998) states that in science, students:

> Will use plenty of writing to list what they know, recall personal experience of the phenomenon, generate questions, keep track of data and variables in an experiment, compare hypotheses, plan presentations to the rest of the class, or write letters to outside authorities about technological implications of their learning (pp.118-119).

The same ideas about writing that apply to reading and science can apply to social studies. Social studies is a subject that often involves a lot of reading and discussion of ideas, concepts, and events. Both formal and informal writing should be used in social studies as a way of allowing the teacher to know which concepts are understood and

which need further explanation. Writing that focuses on history allows students to grasp a deeper understanding of the content being learned. Zemelman et al. (1998) state that "social studies should involve students in reading, writing, observing, discussing, and debating to ensure their active participation in learning" (p.143).

One would not think that writing would be an instructional tool to develop students' understanding of mathematical concepts, but it is because comprehension is increased "by reflecting on and clarifying their own thinking, by relating everyday language to mathematical ideas and symbols, and by discussing mathematical ideas with peers" (Zemelman et al., 1998, p.91). A study conducted by O'Connell et al. (2005) showed that writing is a tool for learning in mathematics and the researchers "quickly accepted the idea that reading students' writing about how they solved a mathematics problem might help us better assess their problem-solving skills" (p.194). They noted that "without explanations, we were often unable to determine whether students actually knew how to solve the problem, particularly when their solutions were incorrect" (O'Connell et al., 2005, p.194). This type of writing strategy would be beneficial to the teacher especially when students often times do not know how to ask questions about their lack of understanding. Instead of a student saying, "I did not understand that problem" and offering no other explanation, the teacher can see exactly where the student experiences difficulty.

Summary

The literature reviewed in this study supports the use of writing to increase student learning, therefore, increasing student achievement. The only disadvantage or

problem found with using writing to increase student learning and understanding is the time it takes teachers to evaluate assignments (Foltz, Laham, & Landauer, 1999). Some educators allow this to restrict the number of writing assignments they give to students. However, there are numerous ways in which writing can be implemented into any class and research shows that short writing sessions have just as many benefits as lengthy ones. At the same time, the value of writing assignments is apparent and significant enough that technology is making advancements in this area. The Intelligent Essay Assessor (IEA) is an electronic essay grader that was developed solely for the purpose of making it easier for teachers to make assignments that are conducive to learning without hesitation. It not only grades the work, but it also provides the students with valuable feedback that can be used to learn content and improve writing and thinking skills (Foltz et al., 1999).

With the "level of literacy required to function in American society and on the job steadily increasing" (Atwell, 1998, p. 29) it only makes sense, that educators rethink instructional practices to ensure the highest level of comprehension for students. "More than 50% of the material heard or read in a class is forgotten in a matter of minutes, and teachers are constantly searching for means of improving retention" (LaBonty & Danielson, 2005, p.31).

METHODOLOGY

Overview

Chapter three outlines the participants, instrumentation, and design and procedures of this study. This study was established as a direct result of a language arts department meeting. During the meeting, the primary concern was increasing student achievement. The school has noticed that it needs to focus more attention on its reading scores in the sixth and eighth grades. The seventh grade scores continue to show growth, while the other two grade levels experience no growth or even a drop in scores.

The school normally experiences high levels of academic achievement. It was named a School of Excellence from 2001-2005 and a Honor school of Excellence during the 2003-2004 academic year, meaning that not only did 90% of students score at or above grade level, but the school also made Adequate Yearly Progress (AYP). However, End-of-Grade (EOG) test scores have continuously been dropping in reading and math for the past three years as shown in Figures 2 and 3.
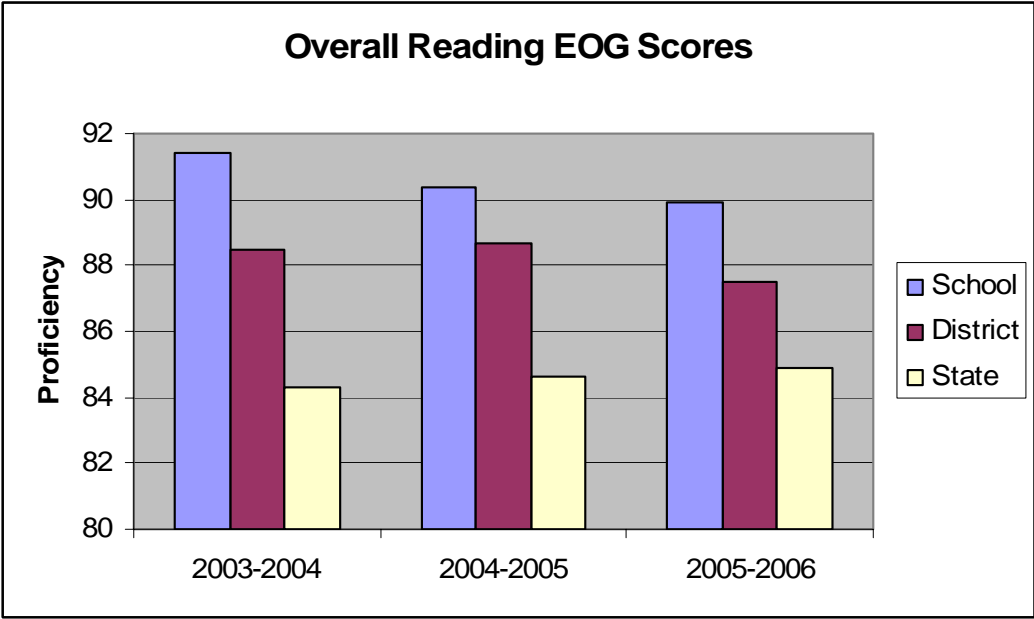
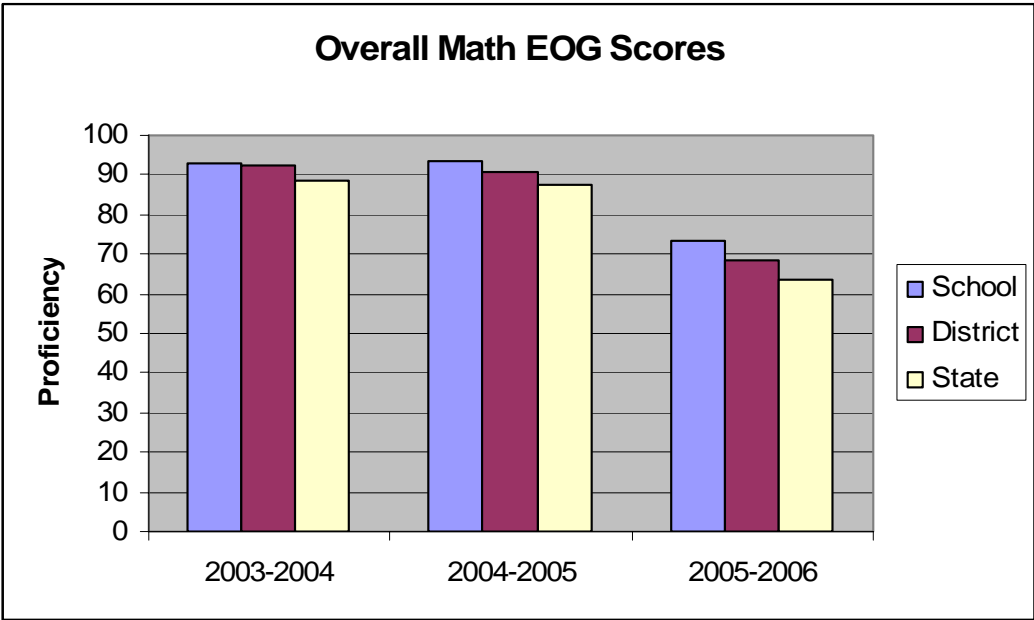Figure 2. Comparison of Reading End-of-Grade Test Results

Figure 3. Comparison of Math End-of-Grade Test Results

This resulted in the school being named a School of Progress for the 2005-2006 academic year, meaning that 60%-80% of students scored at or above grade level. While the school, for the most part, is out-performing others at the district and state levels, these achievement gaps between the grade levels are of great concern.

The implementation of increased writing in an eighth grade language arts class is the focus of this study. The intended results of this study will serve as a means for other teachers to increase student achievement in their content areas. This study hypothesized that increased writing instruction does not significantly impact student achievement.

Participants

The research design of this study is a quasi-experimental design in that random assignment is not used and there are multiple groups and multiple measurements present. The groups are nonequivalent (N) due to the fact that students were not chosen at random to participate in this study. The students are assigned by the principal and those in charge of scheduling. Students were chosen for this study on the basis that they were placed in my language arts classes during eighth grade and that they also attended the school in sixth and seventh grade.

This research design involves two groups of students. The control group, the group not receiving the treatment, will be comprised of students who were all in the same teacher's classes for language arts during the 2005-2006 school year. This group was comprised of forty-one students and divided into three sections consisting of a SAGE class, a middle level achieving class, and a team-taught class. The experimental group, the group that received the treatment (increased writing) is comprised of students who

were in the same teacher's classes for language arts during the 2006-2007 school year. This group was comprised of seventy-five students and was also divided into three sections consisting of a SAGE class, a middle level achieving class, and a team-taught class. Each group of students will be looked at simultaneously due to the criteria of being at the school all three years for middle school being a requirement for the study.

These two groups of students were selected as participants for this study because the quality and level of instruction that they were provided was known and it was ensured that the 2006-2007 class received the same level, in addition to, the increased writing and writing instruction. Students in both groups are also at the same academic levels when they are divided into the various sections. This helps to ensure that the results are valid and reliable.

Instrumentation

The materials necessary for this study were Reading End-of-Grade Test Score Reports, from the sixth, seventh, and eighth grades for the student participating in the study. The score reports were provided by the North Carolina Department of Public Instruction and the Testing and Accountability Department. A large amount of increased writing was provided to the students during the 2006-2007 academic year, as compared to the 2005-2006 academic year. Students were required to complete a reading log which consisted of four half-page entries every week, they were required to use Cornell Notes, and they completed student editorials every week, as well as, participating in various research and novel units throughout the year.

The End-of-Grade Test in Reading assesses student achievement in four

categories: (1) Cognition, (2) Interpretation, (3) Critical Stance, and (4) Connections.

The test is comprised of nine reading selections which are divided into six literary

selections (two fiction, one nonfiction, one drama, and two poems) and three

informational selections (two content and one consumer). The 56-multiple choice item

test is administered in a 115 minute block of time during the last three weeks of school.

Test directions were read aloud from a script provided by the state testing department.

Test security was maintained at all times to ensure that the results would be as valid and

reliable as possible.

Design and Procedure

The first pretest used to measure student success in reading comprehension was

their sixth grade Reading End-of-Grade scores (O). The next pretest measurement used

was their seventh grade End-of-Grade scores (O1). The experimental group (2006-2007

students) received the treatment or the increased writing and writing instruction (X),

while the 2005-2006 students were not exposed to the treatment. Finally, both groups

received the posttest or eighth grade Reading End-of-Grade Test (O2) to measure their

reading comprehension ability as demonstrated in Figure 4.

Quasi-Experimental Design with Pre and Posttests

N   O   O1   X   O2

N   O   O1   O2

Figure 4. The layout of the research design implemented.

The intervention or treatment that was used during this study was increased writing and writing instruction. The operational definition of the treatment, increased writing and writing instruction, is made up of various components. The treatment began by the students participating in biweekly writing assignments that will be composed using entries from daily journal assignments. The North Carolina Standard Course of Study continued to be followed; however, more of an emphasis was placed on writing and incorporating it into literature lessons. The increased writing presented the students with a mock writing test at the end of each nine weeks. The students were given a prompt and asked to respond accordingly. The tests were graded using a rubric much like the one used by the state in grading the seventh grade writing test. Students were also required to keep writing folders so that their progress could be easily monitored. Instruction focused on parts of speech, sentences, paragraphs, as well as, the various types of writing.

End-of-Grade test scores were used as pretest and posttest assessments. This standardized test measures reading comprehension and is a clear indicator of student ability. The students' End-of-grade scores for sixth and seventh grade in both the control group and the experimental group were analyzed and similarities and differences were noted. At the end of the 2006-2007 school year, the eighth grade End-of-Grade scores were analyzed in the same manner to see if the writing instruction had an effect on reading comprehension. The data collection in this study was quantitative, meaning that the test scores are a type of numerical data.

The study was conducted as mentioned above in the operational definition. The increased writing instruction (treatment) was not being directly introduced to the students. Since this is a language arts class, writing is already a component of the

curriculum; therefore, there was no reason to stress to the students that there was difference in instruction. This will ensure validity and reliable results.

There are various threats to the validity of this study that have to be taken into account. To begin with, the students were not randomly chosen to participate in this study and they are, for the most part, homogeneously grouped based upon ability level. To minimize this threat, the study was stretched out over a time frame of two years. This allowed me to compare the scores of students who are at the same levels academically.

The students bring a lot of limitations to this study. Another possible threat/limitation to the study could be the academic levels of the students. Even though the students are divided into sections based upon their academic levels, year one's team-taught class may be stronger academically than year two's team-taught class. The students having different language arts teachers in sixth and seventh grade could also present a threat to the validity of this study. Maturation is also a threat when any study is conducted using children. With this being uncontrollable, there really are not any ways of minimizing that threat other than looking at students who are the same age and grade level, which was done.

Instrumentation is another limitation to the validity of this study. North Carolina is constantly changing its End-of-Grade test as it produces changes in its curriculum. While this may occur, reading comprehension is a constant and it will continue to be present on the test. Testing in itself is a threat to validity. There are some students who learn how to "take the test". To minimize this risk, the teacher was conscious not to "teach" the students how to take the test.

RESULTS

North Carolina End-of-Grade Test Data

　　　　Statistical data shows that the seventy-five students in the experimental group

(2006-2007) showed a higher level of proficiency than the forty-one students in the

control group (2005-2006). The 2006-2007 group had 94.6% of its students scoring

proficient on the eighth grade Reading End-of-Grade test compared to the 2005-2006

group which only had 85.4% of its students scoring proficient as seen in Figure 5

(NCDPI, 2006 & 2007). The developmental scale score average was also significantly

higher for the 2006-2007 group than it was for the 2005-2006 group as seen in Figure 6.

The 2006-2007 group's developmental scale score average was 268.3, whereas the 2005-

2006 group's developmental scale score average was 263.49. The eighth grade

developmental scale score for the 2006-2007 group was 4.81 points higher than the 2005-
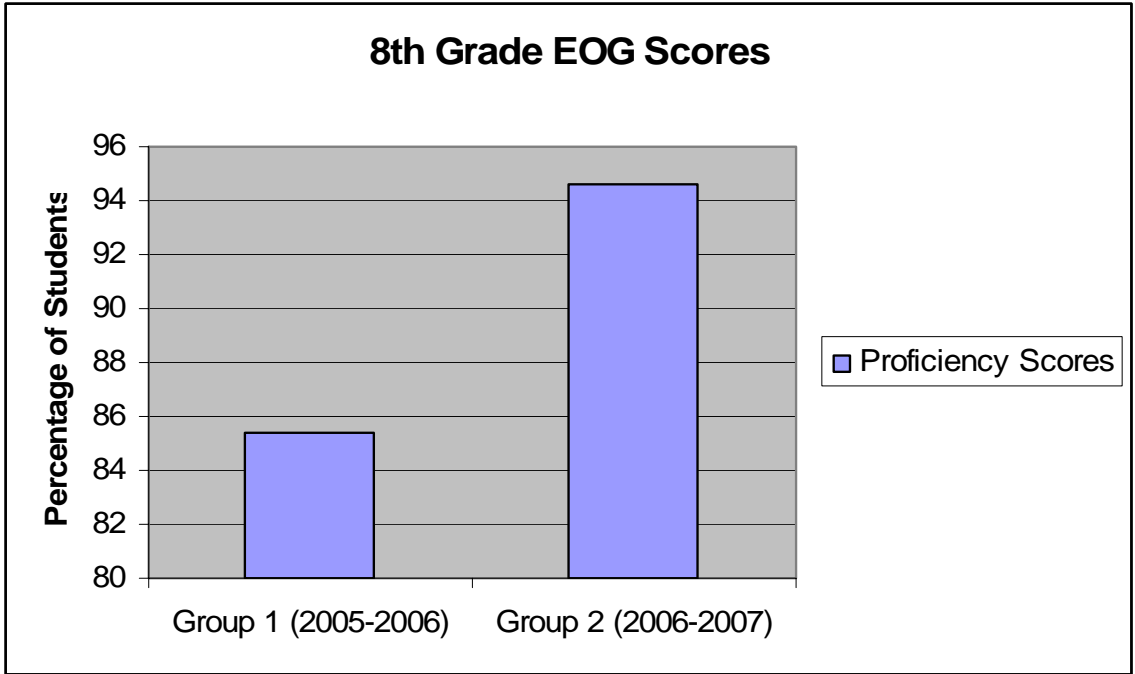
2006 group's score.

Figure 5. Percentage of students scoring proficient on the 8th Grade Reading End-of-Grade Test.
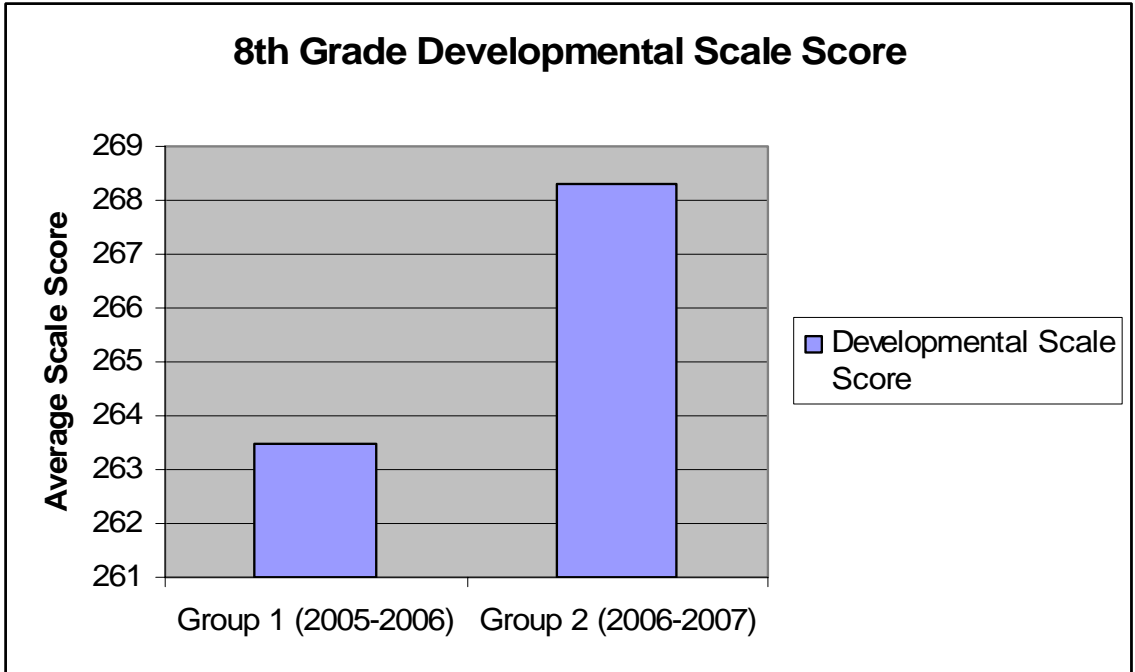
Figure 6. Developmental Scale Scores on the 8th grade Reading End-of-Grade Test.

The 2006-2007 group's developmental scale scores are higher than the 2005-2006 group's for all three years in middle school as seen in Figure 7. Further comparison of the developmental scale scores between the two groups shows that for the 2005-2006 group, their scores increased 3.76 points between sixth and seventh grade while the 2006-2007 group only experienced a growth of 2.83 points. However, the 2006-2007 group's scores increased 3.1 points from seventh grade to eighth grade, while the 2005-2006 group's scores only increased 2.1 points as seen in Figure 8.
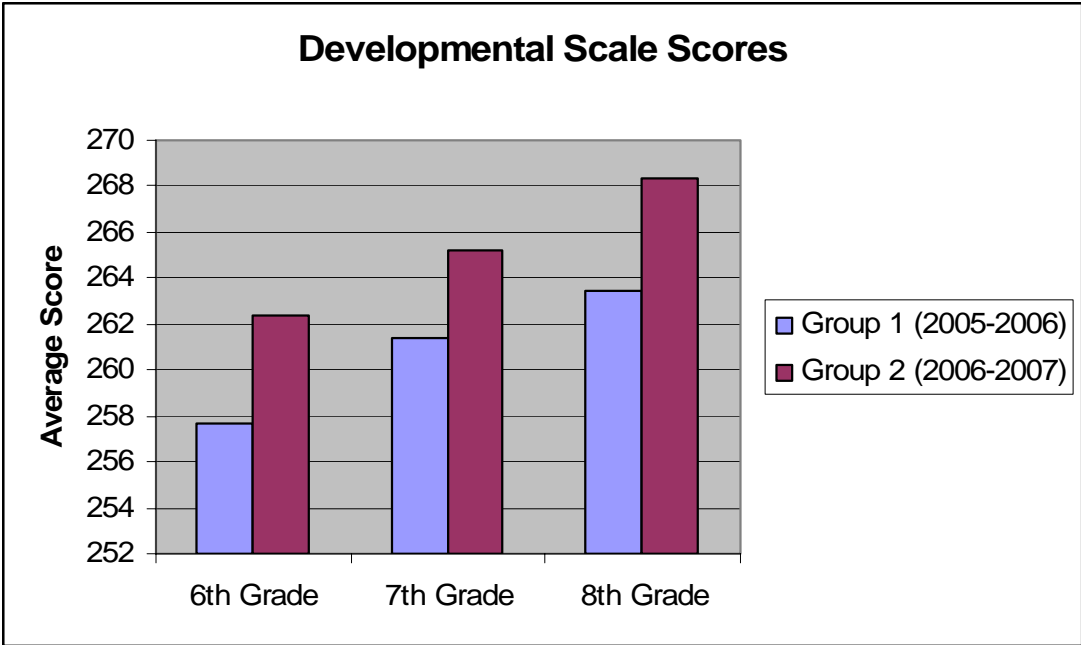
Developmental Scale Scores

Figure 7. Developmental scale score averages for all three years in middle school.
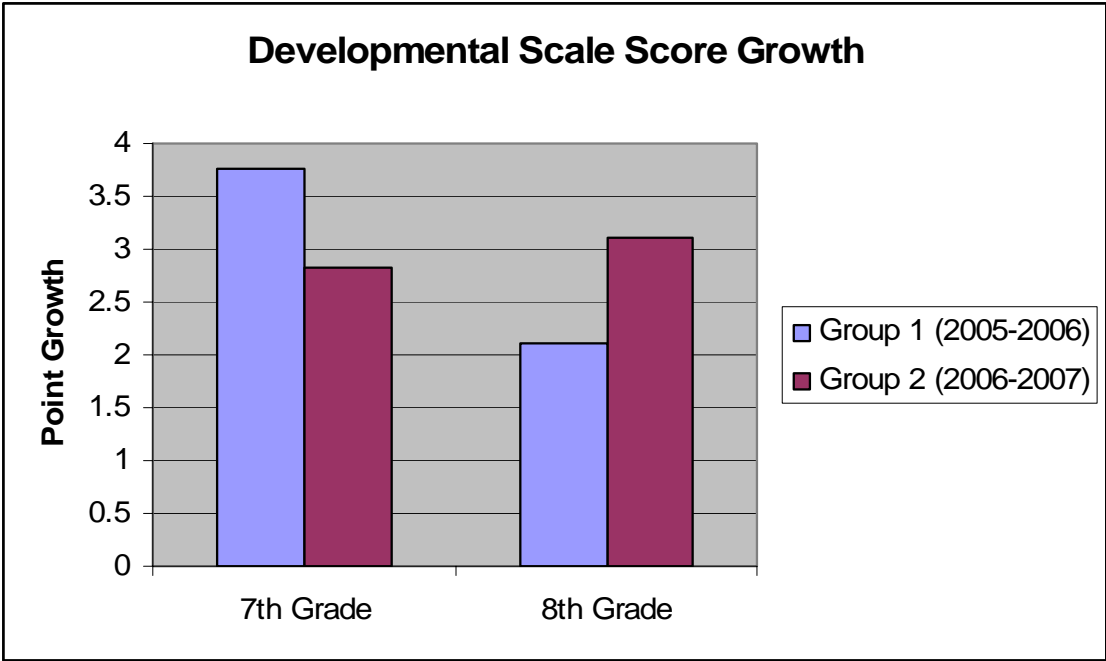
Developmental Scale Score Growth

Figure 8. Developmental scale score growth experienced by each group in seventh grade and eighth grade.

Summary

The standardized test scores in reading for the 2006-2007 group did support the research and idea that writing does have an impact on student achievement in that it increases it. The test scores showed that 94.6% of the students in the 2006-2007 group scored proficient (at or above grade level) on the Reading End-of-Grade Test, whereas, only 85.4% of the students in the 2005-2006 group scored proficient on the test the previous year. The results of this study show that increased writing does increase student achievement.

Further study is suggested in regards to teacher implementation and student achievement in other content areas. To increase the validity and reliability of this study, further studies could include implementing the treatment into other language arts classes in eighth grade, as well as, other grade levels. Studies could also include implementing writing into other content areas, especially math or science, and comparing students' achievement scores on those standardized tests. Further investigation into this topic would establish a great sample of students and teachers.

CONCLUSIONS AND IMPLICATIONS

This study investigated the impact of writing on student achievement. No Child

Left Behind has established high standards for student achievement and accountability.

Thousands of schools in the United States are being placed in the category of failing

schools and are desperately searching for ways to increase student achievement to avoid

being taken over or even shut down by the federal government. Students in sixth through

eighth grade in North Carolina are required to take standardized tests in math and reading

at the end of each year. Seventh graders have the added pressure of the state writing test,

while eighth graders have the computer test. As if this was not enough pressure for any

child, beginning in the 2007-2008 academic year, eighth grade students will be required

to take the Science End-of-Grade Test.

It is great that education now has high standards for student achievement and

administrators and educators are being held to higher levels of accountability, but at the

same time, there are some serious issues with this law. First of all, there should be a

national test that is given instead of each state developing their own if everyone is going

to be held to the same standards. This study showed evidence that states are all over the

place when their tests are compared to the National Assessment of Educational Progress

(NAEP) test. You cannot compare apples to oranges and that is what is happening in

education with various tests being used.

The tests given at each grade level should be a compilation of the material learned

in all content areas, especially since science is being tested in the eighth grade beginning

in the 2007-2008 academic school year and social studies will soon follow. Students

should not have to spend three days in a row, two or more hours a day testing. It is too

much for them, we don't ask that of adults when they take tests that are required to earn a college degree. As a society, we should want our schools to produce well-rounded students; however, only testing reading and math sends the message that other subjects are not as important. Since science and social studies have not been tested in the past, teachers and students tend not to give these content areas the attention they deserve. Now with science being tested, more children are only going to be "left behind" because the material they needed to learn through eighth grade has been neglected.

Another issue that needs to be addressed with No Child Left Behind is holding all students to the same level of proficiency. We are not all alike and we certainly do not all possess the same abilities. There are many children with learning disabilities who put so much effort in to everything they do and strive for academic success and continue to be disappointed year after year by being told they did not make a level III or IV on their standardized tests. Failing to meet proficiency standards is what is stressed to these students, not that their developmental scale score grew ten or more points. Proficiency needs to be defined, but a "growth model" approach should be used for accountability.

A school in Southeastern North Carolina, which has a reputation for high academic achievement, observed that there was no increase or even a decrease in some standardized test scores for students in sixth and eighth grades when compared to the seventh grade scores. The school is dedicated to providing all students with the highest quality education possible. They are continuously striving for academic success and they will continue to stretch all students with a rigorous and meaningful education. During a meeting with the language arts department, it was discussed that the difference that really stood out between the three grade levels and their curriculum was the amount of time

37

spent on writing. Seventh grade teachers give a great deal of attention to writing because of the state writing test the students take in March.

A thorough literature review was conducted and most studies published show a strong relationship between writing and student understanding and learning. Research supported using writing in all of the core subject areas (math, language arts, science, and social studies) as a means of increasing student learning. One does not typically think about writing sentences in a math class as a way to increase student achievement, but it is a great strategy. Having students write out an explanation of how they solved a math problem is a clever way for a teacher to measure the level of understanding the students possess, as well as, it provides them with a way to see exactly where the students may experience difficulties or misunderstandings.

Writing does not have to be the laborious chore that so many think it is. Writing can be divided into two categories: formal and informal. It can be lengthy with specifications for format, content, and style or it can be short and maybe a little messy with some mistakes present. The type of writing implemented in any class should always serve the purpose of increasing student understanding, learning, and achievement.

A needs assessment was conducted to compare and analyze the standardized test scores of the students during the time from sixth to eighth grade. Eighth grade students who all had the same language arts teacher were chosen as the participants of this study. The students for the study were scheduled by the principal and scheduling staff, enrolled in classes with the same language arts teacher, and attended the school all three years of their middle school career. The first group of students did not receive the treatment (increased writing and writing instruction) and they were enrolled in eighth grade during

the 2005-2006 academic year. The group that did receive the treatment were enrolled in eighth grade during the 2006-2007 academic year. Those students experienced writing through a variety of methods including: biweekly writing assignments, daily journals, student editorials, mock writing tests each nine weeks, Cornell Notes, writing folders, various essays related to readings, and research reports. The North Carolina Standard of Study for eighth grade was followed; however, more of an emphasis was placed on writing and incorporating it into class on a daily basis. Writing instruction was also implemented that focused on parts of speech, sentences, paragraphs, as well as, the various types of writing.

This study and its results are important to educators in all content areas and to anyone in the field of curriculum, instruction, and supervision. The study is a product of seeing a concern/issue in education and trying to address that concern or issue using research-based methods. It is important for teachers to take the necessary action to alleviate the problems that exist within our schools. They are the ones in the schools on a daily basis dealing with students and their needs; however, most still depend on someone in central office or the state department to provide them with solutions. These people should be used as resources; afterall, they are not superheroes. They have hundreds of teachers and thousands of students to assist. It is impossible for them to meet the needs of each student in each school. More people need to step up and those people need to be teachers. They are the ones who really know the students, their abilities, and their needs.

As professionals, more teachers must be willing to take it upon themselves to search out answers to problems or concerns that exist within individual schools. This could very well be a method for decreasing the number of schools being labeled as

"failing" by No Child Left Behind. Many teachers complain about not having enough time for things like this; however, you have to ask yourself, "Are they the ones who get to work at eight in the morning and leave as soon as the buses roll out?" I cannot think of another profession where a day's work does not quite make eight hours and that includes lunch and an hour and a half of planning time. Teachers do not need to become workaholics, but they do need to start taking the initiative in recognizing problems with instruction in schools, research those problems, and look for methods to solve them to increase student achievement. That will help no child from being left behind.

The primary goal of all educators is to provide students with the best possible education, this includes increasing student achievement. Individuals in the field of curriculum, instruction, and supervision are motivated by the same goals and are constantly striving for ways to improve education and student achievement, even if what is being practiced works. There could always be a better method or strategy. The wheel does not need to be reinvented, but are the best results being achieved by current methods or doing what has always been done?

This study demonstrates the need for collaboration among all educators to increase student achievement. It is great that some teachers do take the initiative to search out solutions to problems in education in the hopes of increasing student achievement; however, it cannot stop there. Not only do more teachers need to adopt this practice, but teachers need to share their research and findings with one another for the benefit of the school and its students. Studies, strategies, ideas, etc., all need to be shared and discussed among teachers. Teachers also need to be more willing to listen and implement the ideas that are given by fellow teachers. There is not a "corporate ladder"

to climb in schools; therefore, teachers should be more willing to work together for the benefit of the students. Student achievement can be increased if teachers work together to achieve the same goal.

Staff development is needed for this study to continue into other areas, such as math. Teachers need to be trained in writing and writing instruction to implement this strategy into their classes where it has not been previously used. Teachers that do use writing in their classes should have additional training on the types of writing that can be used in their classes, their purposes, and the benefits of using them. Providing such staff development would allow other content areas and student achievement in relation to writing to be studied more effectively. Professional development offered as a refresher in researching in education would also be beneficial in getting teachers motivated to search for ways to increase student achievement. Afterall, teachers do take pride in being life-long learners.

This study also establishes many implications about student motivation that could be further studied. No Child Left Behind and how student achievement is both determined and assessed could be a huge factor in the motivation levels of students. Students who always achieve a level III or IV may not really possess the motivation to achieve higher since focus is placed on achievement levels rather than developmental scale scores. Why should a student strive to do better if they have achieved the highest level on the test? If the focus shifted from levels to development scale scores, students would be motivated to achieve higher scores just as they are when they make a 92 in a class. Their motivation increases and they strive to make an A in the class.

The same idea applies to students who do not achieve a level of proficiency. First of all, no one wants to fail, especially a child. However, if this has been the only experience they have had and they expect it, they are not going to be motivated to do better. Since levels are stressed, they do not and are not given the opportunity to take pride and celebrate their academic accomplishments. The test results at the end of one year could directly effect the motivation of the student for the following year. Yes, some students are motivated and really put forth a lot of effort the following year; however, some also develop the mentality of "here we go again."

Student motivation in regards to writing also needs to be further studied. Data presented in this study shows that students are spending little time writing. Why is that? Especially, when research also shows that writing increases student understanding and learning which increases student achievement.   What needs to happen to increase the amount of time students spend writing? With all of the advancements that have occurred in technology over the past twenty years, one would think that students would have benefited from them. On the other hand, have those advancements actually done more harm than good? Text and instant messaging have their own language (u instead of you). More and more this "language" or type of writing is being seen in the classroom in student work. It could be impacting the motivation levels of students and their abilities in writing which would affect student learning.

As a result of this study, I have concluded that there are several things that need to occur in education to increase student achievement. They are as follows:

- Increased writing in all content areas,
- Increase writing instruction in all content areas,

- National standardized tests rather than individual state tests,

- Accountability and proficiency determined by "growth model,"

- Staff development on carrying out and implementing educational research,

- Staff development on various types or methods of writing, their purposes, and implementing them in all of the content areas,

- Collaboration between teachers within and outside of grade levels and departments,

- Increase in student motivation, and

- More focus on doing what is best for children.

The field of curriculum, instruction, and supervision is equipped to address each of these concerns and this study is a demonstration of the effect it can have on teaching and learning.

References

Anson, C.M. (2002). The wac casebook. New York: Oxford University Press.

Applebee, A.N. & Langer, J.A. (2006). *The state of writing instruction in america's schools: what existing data tells us.* Retrieved May 05, 2007, from http://cela.albany.edu

Atwell, N. (1998). Learning how to teach reading. In L. Bridges (Ed.), *In the middle: New understandings about writing, reading, and learning* (pp. 29-41). Portsmouth, NH: Boynton/Cook.

Bromley, K. (1999). Key components of sound writing instruction. In Gambrell, L.B., Morrow, L.M., Neuman, S.B., & Pressley, M. (Ed.), *Best practices in literacy instruction.* (pp.152-174). New York, NY: The Guilford Press.

Collins, J.L. & Lee, J. (2005). Bringing together reading and writing for the purpose of enhancing reading comprehension. Retrieved July 3, 2006, from http://www.gse.buffalo.edu/ePortfolio/doc.aspx?ID=1887

Daniels, H., Hyde, A., & Zemelman, S. (1998). Best practice in reading & Best practice in writing. In W. Varner (Ed.), *Best practice: New standards for teaching and learning in america's schools.* (pp. 24-82). Portsmouth, NH: Heinemann.

Empire State College. (2007). *Informal writing: Uses.* Retrieved June 02, 2007, from http://www.esc.edu/esconline/across_esc/writerscomplex.nsf/0/89705c80e7116fb6852569c30074c5b8?OpenDocument

Fisher, D., Frey, N., & Williams, D. (2002). Seven literacy strategies that work. *Educational Leadership*, 60(3), 70-73.

Foltz, P.W., Laham, D., & Landauer, T.K. (1999). Automated essay scoring: applications to educational technology. Retrieved July 08, 2006, from http://www-psych.nmsu.edu/~pfoltz/reprints/Edmedia99.html

Fulwiler, T. (1986). The argument for writing across the curriculum. In A. Young & T. Fulwiler (Ed.), *Writing across the disciplines: Research into practice* (pp.21-32). Upper Montclair, NJ: Boynton/Cook Publishers, INC.

Graves, M.F., Juel, C., & Graves, B.B. (1998). Teaching reading in the 21st century. Boston: Allyn and Bacon.

Knoeller, C. (2003, May). Imaginative response: teaching literature through creative writing. *English Journal*, 92(5), 42-44.

LaBonty, J. & Danielson, K.E. (2005). Writing poems to gain deeper meaning in science. *Middle School Journal*, 36(5), 30-36.

Langer, J.A. (1992). Speaking of knowing: Conceptions of understanding in academic disciplines. In A. Herrington & C. Moran (Ed.), *Writing, teaching, and learning in the disciplines* (pp.69-85). New York, NY: The Modern Language Association of America.

MacDonald S.P. & Cooper, C.R. (1992). Contributions of academic and dialogic journals to writing about literature. In A. Herrington & C. Moran (Ed.), *Writing, teaching, and learning in the disciplines* (pp.137-155). New York, NY: The Modern Language Association of America.

Marzano, R.J. (2003). What works in schools: Translating research into action. Alexandria: Association for Supervision and Curriculum Development.

Moore, D.W., Moore, S.A., Cunningham, P.M., & Cunningham, J.W. (1986). *Developing readers and writers in the content areas*. New York: Longman.

North Carolina Department of Public Instruction. (2007). *NC school report cards*. Retrieved February 07, 2007, from http://www.ncschoolreportcard.org

North Coast Institute. (2007). *Study skills-writing skills: Formal academic writing*. Retrieved June 02, 2007, from http://www.ncistudent.net/StudySkills/WritingSkills/Academic1.htm

O'Connell, S.R., Beamon, C., Beyea, J.M., Denvir, S.S., Dowdall, L.A., Friedland, N.G., et al. (2005). Aiming for understanding: Lessons learned about writing in mathematics. *Teaching Children Mathematics,* 12(4), 192-199.

Political Animal (2007). *CBS news: More NCLB madness.* Retrieved June 21, 2007, from http://www.cbsnews.com/stories/2007/06/07/politics/animal/printable2898115.shtml

Russell, D.R. (1992). American origins of the writing-across-the-curriculum movement. In A. Herrington & C. Moran (Ed.), *Writing, teaching, and learning in the disciplines* (pp.22-42). New York, NY: The Modern Language Association of America.

Porter, C. & Cleland, J. (1995). *The portfolio as a learning strategy.* Portsmouth: Boynton/Cook Publishers.

Special Connections. (2007). *An introduction to writing.* Retrieved June 02, 2007, from http://www.specialconnections.ku.edu/cgi-bin/cgiwrap/specconn/main.php?cat=instruction&subsection=writing/main

Spivey, N.N. (1989). Construing constructivism: reading research in the united states. Retrieved July 3, 2006, from http://www.writingproject.org/downloads/csw/OP12.pdf

The Associated Press. (2006). *CBS news: 1,700 schools face radical makeovers*. Retrieved June 21, 2007, from http://www.cbsnews.com/stories/2006/05/09/national/printable1604540.shtml

The Associated Press. (2007). *CBS news: 2,300 schools face 'no child' overhaul*. Retrieved June 21, 2007, from http://www.cbsnews.com/stories/2007/06/20/ap/national.printable2958833.shtml

The White House. (2007). *No child left behind*. Retrieved June 12, 2007. from http://www.whitehouse.gov/news/reports/no-child-left-behind.html

Turner, H.C. (2003). Reading across curriculum. *North Carolina Department of Public Instruction*. Retrieved July 09, 2006, from http://www.ncpublicschools.org/schoolimprovement/effective/briefs/readingacros s?&print=true

Wallis, C. & Steptoe, S. (2007). How to fix no child left behind. *Time*, 34-41.

Wikipedia. (2007). *Writing*. Retrieved June 20, 2007, from Wikipedia: The Free Encyclopedia website: http://en.wikipedia.org/wiki/Writing

Writing. (n.d.). *Dictionary.com Unabridged (v1.1).* Retrieved June 20, 2007, from Dictionary.com website: http://dictionary.reference.com/browse/writing

Zemelman, S., Daniels, H., & Hyde, A. (1998). Best practice: New standards for teaching and learning in america's schools. Portsmouth: Heinemann.