Accelerated Reader: Does It Work?

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DATA FORM
ABSTRACT

The purpose of this study was to determine if increased independent reading practice, as verified by 50 or more Accelerated Reader points, would significantly improve standardized reading scores. The reading practice and assessment performance of 60 first, second, and third grade students was monitored for eight months. The students were pre-tested and post-tested using the Standardized Test for the Assessment of Reading (S.T.A.R.). Descriptive statistics were used to determine if a significant difference existed between the overall mean scores of the high reading practice group who earned 50 or more Accelerated Reader points, versus the low reading practice group who earned less than 20 Accelerated Reader points. Under the conditions of this experiment, the students who earned 50 or more Accelerated Reader points, did show significantly greater achievement gains than the low reading practice group. Therefore, it was concluded that significantly increased reading practice does yield increased student reading proficiency verifying that the Accelerated Reader program does work.
CHAPTER ONE

THESIS PROPOSAL

Problem Statement

One of the major issues in education today is the alarming rate of low student reading proficiency. As cited in the landmark study Becoming a Nation of Readers "Reading is a basic life skill. It is a cornerstone for a child's success in school and, indeed, throughout life. Without the ability to read well, opportunities for personal fulfillment and job success inevitably will be lost" (Anderson, Hiebert, Scott, & Wilkinson, 1985, p.1).

To compound the problem, almost all students in American schools eventually learn to read on at least a first grade reading level. However, a growing number are unmotivated to read and find reading to be an unpleasant experience. These students never progress past the initial stages of beginning reading skills to the next stage of reading which is comprehension, constructing meaning from text. Without comprehension there is no joy in reading and no motivation to read. As a result, these students represent the growing incidence of aliteracy in America (T. Paul, 1996; The Teacher's Handbook, 1996).
To help combat the issues of aniteracy and low student reading achievement in America, it is imperative for schools to identify and effectively implement reading programs that will inspire students to become proficient and lifelong readers. This study will investigate one program that may be effective in reaching those goals.

Importance and Rationale of the Study

To further exemplify the need for increased attention to literacy development, the following excerpt from the U.S. Department of Education AmericaReads Initiative (1998) is cited.

Research demonstrates that if students cannot read well by the end of third grade, their chances for success are significantly diminished, and they have a greater likelihood of dropping out or engaging in escalating delinquent behaviors. In 1994, 40% of America’s fourth graders failed to attain the basic level of reading and 70% of children fell below the proficient level of reading on the National Assessment of Educational Progress.

Similar results are found upon investigation of the assessment results from the 1998 Michigan Educational Assessment Program (MEAP). Statewide only 58.6% of the fourth grade students and 48.8% of the seventh grade
students assessed showed adequate reading proficiency. In the author's own rural West Michigan school district, only 54% of the fourth graders and 47.5% of the seventh graders assessed showed adequate reading proficiency on the MEAP test (MEAP Results, 1998).

Another case in point is the author's own elementary school where 523 first, second and third grade students were assessed using the S.T.A.R.- Standardized Test for the Assessment of Reading in the spring of 1998. Only 41.5% of the students scored with adequate grade level proficiency in reading.

Unfortunately this problem is not a new one, over a decade ago it was identified that over 23 million American citizens could not read and write sufficiently. In addition, a significant number more may learn how to read without ever acquiring the desire to read or a real understanding of what is read (Routman, 1988).

As one can see from these statistics, the alarming rate of low student reading proficiency is at critical proportions. Careful analysis and implementation of effective reading practices in schools has become essential!

Background of the Study

"Reading gives us the power to understand what others have written, today or thousands of years ago. It has the potential to change our lives"
A major concern in education today is the growing incidence of aliteracy in America. Aliterate is the term used to define the population of students who know how to read but their behavior tells us they don’t like it enough to do it very often. In essence, we’ve taught children how to read but forgotten to teach them to want to read (Trelease, 1995). As Mark Twain (1937) once wrote, “The man who does not read, has no advantage over the man who can’t”.

One of the basic tenets in educational research on reading is the fact that reading is an accrued skill that develops with practice.

... reading is like riding a bicycle, driving a car, or sewing: in order to get better at it you must do it. And the more you read, the better you get at it; and the better you get at it, the more you like it; and the more you like it, the more you do it and the better you get at it, ad infinitum…. Students who read the most, read the best, achieve the most, and stay in school longest. Conversely, those who don’t read much cannot get better at it (Trelease, 1995, p.9).

Research shows that the amount of time students spend in independent, silent reading in school is significantly related to gains in reading achievement (T. Paul, 1996). With this knowledge it becomes critical to combat student
aliteracy with reading programs that promote significant levels of independent reading practice.

**Statement of Purpose**

The purpose of this study is to determine whether or not increased independent reading practice will yield improved student reading proficiency. More specifically, this study will evaluate if substantially increased independent reading practice as verified by 50 or more Accelerated Reader points will significantly improve student proficiency on the S.T.A.R.-Standardized Test for the Assessment of Reading.

**Goals and Objectives**

In this experimental study, the researcher utilized the reading management software program Accelerated Reader to study the reading achievement of 76 first, second and third grade students. The researcher implemented the Accelerated Reader program at her elementary school in November of 1998.

The goal of the program was to increase independent reading practice by allowing students to self-select books that were in their reading ranges as determined by the S.T.A.R. pre-test given in the fall of 1998. After reading the books, students would take a computerized multiple choice comprehension test.
on the text which would verify that the book had been read. Based on the percentage of correct answers, the Accelerated Reader program would then award points for each test taken. Motivation systems were also implemented to encourage reading practice.

It was expected that the students who read more as verified by Accelerated Reader points would have higher gains in achievement on the S.T.A.R. test at the end of the school year. The success of this project was measured by a pre-test and post-test comparing the high reading practice group's and low reading practice group's mean scores and utilizing descriptive statistics at the ninety-five percent confidence level.

Key Terms

Aliterate: Term used to describe individuals who have a firm grasp on the basic mechanics of reading but choose not to read, thus, decreasing the likelihood of long-term reading growth (Trelease, 1995).

Accelerated Reader: Computerized reading management system where students read leveled fiction and non-fiction books then take a multiple choice reading test on the pertinent facts of the text (T. Paul, 1996).

S.T.A.R.: Standardized Test for the Assessment of Reading. A computerized K-12 reading comprehension assessment which utilizes a cloze reading
technique to determine Instructional Reading Levels and Grade Equivalencies (The Teacher's Handbook, 1996).

Limitations

The researchers' intent was to have a control group in the study, which did not use the Accelerated Reader program at all. However, due to teacher enthusiasm about the program, all students were involved in the program at some level of participation. Thus, this study became a comparison of low student reading practice versus high student reading practice as measured by Accelerated Reader points. In addition, 16 of the original 76 students in the study were exempted due to participation in the H.O.S.T.S. - Helping One Student To Succeed mentoring program. It was determined by the researcher, that the most valid data would be obtained if only students who participated in the regular educational program were included in the study.
CHAPTER TWO

LITERATURE REVIEW

Introduction

Research indicates that nearly everyone in America can read and write – but not very well. Basic literacy is on the rise, however, the demands for literacy in modern society have been rising faster. Up to 23 million Americans in the work force lack the reading and writing skills necessary to compete in the job market, and studies show that the majority of young people have difficulty understanding text above the elementary school level (Healy, 1990; Krashen, 1993).

Studies also indicate that there are many benefits gained by large amounts of reading. The range and depth of comprehension increases, both for written and spoken language. There are dramatic and consistent increases in vocabulary. Writing ability and spelling improves with reading, and people and societies that are highly literate tend to do the best in a changing economy (Honing, 1996; Rose & Nicholl, 1997; Smith, 1997). With these facts in mind, it becomes paramount for the health of our nation to identify ways to increase literacy proficiency.
In this chapter the author will cite information regarding a prevalent reading development theory, how attitudes towards reading affect achievement, and what the experts recommend. The author will also review current research studies showing what has proven to be effective in increasing reading achievement.

Reading Theory

One of the most prevalent theories about reading development evolved from the work of the Russian child-development psychologist Lev Vygotsky. Mr. Vygotsky found that optimal learning takes place when instruction is given in the students' Zone of Proximal Development. A level of difficulty that is neither too hard (frustrational) nor too easy (Teacher's Handbook 3-5, 1999). Using the theory of Zone of Proximal Development (ZPD) for optimal reading growth, one of the most important roles of the teacher becomes guiding students to select reading materials that are in their optimal reading range (Routman, 1991; Starting Out Right, 1999).

One of the advantages of the Accelerated Reader program is that all of the books have been leveled using the Flesch-Kincaid readability formula. This leveling aids teachers in monitoring student selection of reading materials in their individual ZPD reading ranges that will best promote reading.
development. In addition, it has been identified that on Accelerated Reader tests, a percentage correct between 85%-95% corresponds to a students’ ZPD range. This correlation allows teachers a way to monitor if students need to adjust their reading ranges either with more difficult or easier materials (Readability Formulas, 1998; Teacher’s Handbook 3-5, 1999).

**Reading Attitudes**

Reading is considered one of the most important skills a child needs to learn. However, without a positive attitude towards reading, this skill is unlikely to develop into a lifelong habit. Thus, reading attitude could determine if an individual is presented with opportunities for access to further education, higher-skilled jobs, and the chance for a higher standard of living, which have all been highly correlated with the ability to read well (Honing, 1996; Mathis, 1996).

As stated earlier, a serious issue in the United States is the prevalence of aliteracy. An aliterate person is one who knows how to read but who doesn’t choose to. It has been stated that “an aliterate person is not much better off than an illiterate, a person who cannot read at all” (Healy, 1990, p.23).

What does this mean for teachers? Research shows that student attitudes toward reading are directly correlated to reading practice and thus
reading achievement (Smith, 1997). In studies conducted on children's reading attitudes, it was found that by having the teacher read-aloud books to students, implementing the various components of a reading workshop, and providing time in class for independent reading, student attitudes towards reading were significantly increased (Angeletti, 1996; Havarty, 1996; Hewitt, 1996).

Implementing the Accelerated Reader program into schools can also help to improve student reading attitudes. In a study called Using the Accelerated Reader and Other Strategies and Varied Techniques to Improve the Reading Attitudes of Fifth Grade Students by McKnight (1992), it was found that the Accelerated Reader program was very motivational for fifth grade students and that reading attitudes improved and students read more books after using the program.

Due to the fact that a person's attitude towards reading can greatly determine the amount read by an individual, it is not surprising that 80% of the books in this country are read by about 10% of the population (Healy, 1990). Keeping all of this in mind, it becomes critically important for teachers to conscientiously strive to improve student reading attitudes.
Expert Recommendations

Research shows that the amount of time students spend in independent, silent reading in school is significantly related to gains in reading achievement. With this knowledge, it is dismaying to find that the average primary classroom only reserves 7 minutes a day to independent reading practice. It is further dismaying as one learns that independent reading is a major source for vocabulary development, reading fluency, and critical thinking skills, as well as a time for internalizing concepts and strategies (Anderson, et al., 1985; Critical Thinking, 1997; Williams, 1996).

"Research suggests that the frequency with which students read in and out of school depends upon the priority classroom teachers give to independent reading" (Anderson, et. al, 1985, p.79). As Jim Trelease (1995) stated, "If you can’t find time in school, students won’t find it outside either"(p.200). It is discouraging to learn that on the average less than 10% of the total time devoted to reading instruction is spent in independent reading practice when the ultimate aim of reading instruction is the reading of real books (Anderson, et. al, 1985; Cunningham & Allington, 1994)!

According to the New Zealand Ministry of Education, independent reading is necessary for successful reading development. In order for students to become lifelong readers, they need to choose to read, select their own
reading materials, and share what they have read. The Ministry, along with the International Reading Association (IRA), and the National Association for the Education of Young Children (NAEYC), advocate that independent reading be an integral part of every classroom’s reading program (IRA & NAEYC, 1998; Reading For Life, 1997; Reading in Junior Classes, 1994).

Since there is no question that reading achievement is positively influenced by the amount of time spent reading books, it is essential for teachers to provide time in school (Fountas & Pinnell, 1996; Healy, 1990; Routman, 1991; Tierney, Readence, & Dishner, 1995). How much time should American students spend in sustained silent reading per day? Different sources cite varying lengths such as a minimum of 2 hours a week (Anderson, et. al., 1985). Or, more specifically, as in the Reading Renaissance program; in first grade, emergent readers should begin with 10 minutes independent reading and work up to 30 minutes per day by the second semester in school. In second grade, emergent readers should spend 40 minutes per day emersed in silent reading, and in third grade, established readers should spend two 30 minute intervals or 60 minutes total time in independent reading practice in school daily (The Teacher’s Handbook, 1996).

In addition, students should be learning approximately 3,000 to 4,000 words a year during their upper elementary school years if they are to become
literate adults. By fifth grade, for a student to make grade-level progress, they should be reading 1.1 million words a year or the equivalency of 25-30 books in addition to the reading done during school. Currently, only 1 out of every 5 children read enough to achieve this level (Honing, 1996).

**Current Research Studies**

As stated earlier, one of the issues in education today is the low levels of student reading proficiency. In an effort to address this issue many schools have elected to integrate the Accelerated Reader program into their existing reading curriculums.

The Accelerated Reader program is a K-12 computer-aided reading comprehension and management system that is based on the following procedure: A student selects a book from a recommended book list of over 21,000 books. The Accelerated Reader (AR) system assigns a point value to each book based on the number of words in the book and its reading level, using the Flesch-Kincaid readability index. Once the student reads the self-chosen book, he or she goes to the computer and takes a multiple-choice test on the book. The test consists of five, ten, or twenty objective questions about the important facts in the book. The computer scores the test, awards the student points based on test performance, and keeps a complete record of the
results. The student must score at least sixty percent on the test to earn any points. This performance criteria makes it extremely unlikely that a student can earn points without reading the book with some comprehension. “AR points are therefore a fairly accurate measure of the quantity of words being read and comprehended, and therefore, an accurate measure of reading practice” (T. Paul, 1996, p. 7).

Implemented effectively, the Accelerated Reader program has the potential to help increase the following: reading comprehension, student motivation to read, and critical thinking skills. The use of the Accelerated Reader program has also been linked to increased student achievement on standardized reading tests.

In a 1996 study called Patterns of Reading Practice the following was observed. “There is a strong correlation between the amount of reading practice time children in schools receive, and their performance on standardized reading comprehension tests” (T. Paul, p.16). The study indicated that students who receive sixty minutes of reading practice time daily show average reading comprehension development at up to twice the rate of national norms. Terrance Paul asserts that “reading practice is the most reliable predictor of student reading achievement-more reliable than either the instructional method used or the students’ socioeconomic background” (p.16).
In a 1996 study based on 6,149 Texas schools, called Impact of the Accelerated Reader on Overall Academic Achievement and School Attendance, the following conclusions were drawn by Paul, VanderZee, Rue, and Swanson. The schools which owned the Accelerated Reader program outperformed the schools which did not own Accelerated Reader on virtually all subject tests, including reading, math, science, and social studies. They also showed significantly higher attendance rates. Based on these and other study results, the report concluded that the Accelerated Reader Program was an effective tool to stimulate increased reading, and that the increased reading lead in a domino effect to higher attendance rates and greater academic success for students.

Another study called, Effects of the Computerized Accelerated Reader Program on Reading Achievement was published in 1993, by Peak and Dewalt. They found in a North Carolina research study that after five years of using the Accelerated Reader program from third grade to eighth grade, the experimental group had significantly higher Children's Assistance Trust test scores than the control group which did not use the program.

Also in 1996, a study called Experimental Evaluation of Computer Assisted Self-Assessment of Reading Comprehension: Effects on Reading Achievement and Attitude by Vollands, was conducted in Aberdeen, Scotland comparing the reading achievement and attitudes of three groups of students.
One group utilized the Accelerated Reader program, one group used an alternative reading method and the control group utilized neither. The results found that the students who participated in the Accelerated Reader program yielded greater reading achievement gains and more positive attitudes towards reading than either the control group or the alternative reading method group.

One of the most beneficial aspects of the Accelerated Reader program is that it provides students with the opportunity to develop their capacity for critical thought. According to the report put out by the Institute for Academic Excellence called *Critical Thinking and Literature-Based Reading* "self-selected, literature-based reading that is at the appropriate level of challenge, causes the reader to engage in constructive, analytic thought to get at the meaning of the literature." This constructive thought leads to the development of higher-order thinking skills (1997, p.4). With the severity of the reading proficiency problem in America, and the potential benefits of the Accelerated Reader program in relation to independent reading practice, it is easy to see why over 30,000 schools in North America have chosen to supplement and enhance their existing reading curriculums with the Accelerated Reader reading management system (J. Paul, 1996).
Summary

In today's information based society being literate has become a necessity! Unfortunately, studies have shown that many students lack the reading proficiency necessary to compete in this job market (Healy, 1990; Honing, 1996; Krashen, 1993). Current reading theory, which has evolved from the work of Lev Vygotsky, dictates that teachers instruct students in their Zone of Proximal Development (ZPD) reading ranges for optimal reading growth. This instruction requires teachers to utilize various teaching methods that promote individualized progress (Routman, 1991, Teacher's Handbook 3-5, 1999).

Although advances have been made in decreasing the number of illiterate citizens in America, the goal now should shift to focus on aliterates, people who know how to read but choose not to. Teachers need to ensure that they provide positive reading experiences for children so they will have a greater chance of becoming lifelong readers. Research has shown that independent reading practice leads to increased reading proficiency. This increase in ability yields greater reading pleasure. Therefore, the experts recommend that individual reading practice become an important part of every school day (Fountas, & Pinnell, 1996; IRA & NAEYC, 1998; T. Paul, 1996; Routman, 1991).
One method that studies have shown to be effective way of monitoring student reading practice is utilizing the Accelerated Reader program. Schools that have implemented this reading management system have consistently shown improvement in student reading achievement and attitude (McKnight, 1992; Paul, et al., 1996; Peak & Dewalt, 1993; Vollands, 1996).

Taking into account the aforementioned data, the author concludes that the importance of independent reading practice cannot be over-emphasized. The relationship between reading and literacy development is remarkably consistent. Nearly every study that has examined this relationship has found a significant correlation despite utilizing different testing methods and measures (Krashen, 1993).
CHAPTER THREE

THESIS COMPONENTS/ACTIVITIES

Introduction

Low levels of student reading proficiency is a major concern in schools all across America. Educational research has consistently identified that increasing independent student reading practice is essential to increase student reading achievement. In an effort to combat low reading achievement on standardized tests in the author's own school district, this chapter describes the components of a study that evaluates whether increased reading practice significantly increases reading proficiency.

Standardized Test for the Assessment of Reading

To gain baseline data for the study, all first, second, and third grade students who were independent readers were given the Standardized Test for the Assessment of Reading (S.T.A.R.) in the fall of 1998. The S.T.A.R. test is a computerized reading assessment that can be given up to 5 times a school year for diagnostic purposes. This assessment utilizes a cloze reading technique that determines a students' reading level based on vocabulary and comprehension aptitude. The test contains 5 different databases of questions.
that are given in random order so that questions are not repeated in a school year. Based on performance, a student is given a Grade Equivalency score, an Instructional Reading Level, a Zone of Proximal Development reading range, as well as other statistical data. The grade equivalency score represents how a student performed relative to students in a nationally normed sample. The instructional reading level is the reading grade level at which the student demonstrated at least eighty percent proficiency recognizing words and comprehending material. The ZPD reading range is the reading level range from which a student should select books in order to achieve optimal growth in reading skills.

The students in the authors’ elementary school receive the S.T.A.R. test three times yearly. The test was given in September, January and at the end of May. The students were assessed with their class in the computer lab monitored by the researcher and three assistants. The test took approximately 15 minutes to give and the students were familiar with the assessment format.

For diagnostic purposes, the teachers were inserviced about the S.T.A.R. assessment by the researcher. The staff took the S.T.A.R. test themselves, then analyzed their class data to identify the individual needs of their students. Several diagnostic reports were printed for each child and a
parent letter regarding student achievement was sent home in the fall and again in the spring.

The author identified all students who achieved an Instructional Reading Grade Level of 2 on the S.T.A.R. pre-test for the research study. There were 76 students from grades first, second, and third in the original study population. These students were closely monitored to see if large amounts of individual reading practice would yield significant achievement gains on the S.T.A.R. post-test at the end of the school year.

**Accelerated Reader Program**

In the fall of 1998, the researcher implemented the Accelerated Reader program in her elementary school to help combat the incidence of low reading proficiency. As part of the implementation, the teaching staff was given four inservices about the Accelerated Reader program over the course of four months. The first inservice was an introduction and video about the program. The second was an overview of the basic principles and procedures, for which the researcher created a teacher’s manual. The third was a computer inservice on how to run reports and take tests. The last inservice was on advanced diagnostic techniques and procedures. In addition to the staff trainings, a copy of the *Teacher’s Handbook: A Guide to Reading Renaissance* was purchased.
for every teacher as a resource for implementation. To prepare the author for the inservices, she attended a three-day Accelerated Reader training and sent four teachers and her principal to a one-day training.

Originally, the researcher had hoped to have only a few of the twenty-six first, second, and third grade classrooms pilot the Accelerated Reader program. However, after the initial introductory inservice, teacher enthusiasm was so great that all classrooms elected to participate. Therefore, all of the staff and students were trained in the usage of the program, however, participation was voluntary for students, and teachers were allowed to implement the program at a level they felt comfortable with.

For the student inservice in November of 1998, teachers brought their classes to the computer lab for the researcher to explain the program and for the students to take a practice test. The students were very excited about the Accelerated Reader program and began reading books and taking tests that very day.

Books, Tests, and Motivation

Students were provided with multiple opportunities to select Accelerated Reader books for their reading pleasure. Students had library period once every three days, the media center was open before school, after
school and for two hours during the school day for checkout, and teachers kept
a variety of Accelerated Reader books in their classroom libraries for student
use. In addition, for ease of use, the library staff color-coded all of the
Accelerated Reader books (See Appendix B) and ordered hundreds more
literature titles and tests at the appropriate reading levels from the database of
21,000 Accelerated Reader tests available.

Students were also provided with ample opportunities to take the
networked Accelerated Reader tests at school with 10 student computers in the
library, 4 small computer labs with 12 computers in each, 1 large computer lab
with 30 computers and 1-3 computers in every classroom. Teachers facilitated
students using the Accelerated Reader program by scheduling time in the
classroom for independent reading, book selection, and test taking, as well as
monitoring individual student progress. Parents were informed about the new
program and asked to encourage their children to bring Accelerated Reader
books home to read.

To further promote student participation in the Accelerated Reader
program, various school-wide motivational activities were designed. Students
were encouraged to meet various reading certification levels (See Appendix
C), which yielded them certificates of achievement, recognition on the school
announcements and their names on the “Reading Wall of Fame”. Additional
incentive tokens were given for achieving 25, 50, 75, 100 and 150 Accelerated Reader points (See Appendix D). Many teachers kept graphs in their classrooms to record student progress, as well as set up class goals and rewards. Finally, as a part of the “March Is Reading Month” celebration, the principal held a school-wide challenge. If the students and staff earned 2,000 Accelerated Reader points during March, he would invite an elephant to school and have himself and the researcher kiss it. The students met the challenge and earned more than enough points!

In Chapter three the author described the activities of the reading study. They included the pre and post-testing of students using the S.T.A.R.-Standardized Test for the Assessment of Reading, the implementation of the Accelerated Reader program and the execution of a school-wide reading motivation plan. In the following chapter the author will discuss the study population and data collection methods.
CHAPTER FOUR
THESIS STRATEGIES AND METHODOLOGIES

Study Population

This study was conducted with 76 students from a rural elementary school in West Michigan. Students were selected from grades first, second, and third who had scored an Instructional Reading Grade Level of 2 on the S.T.A.R. – Standardized Test for the Assessment of Reading given in the fall of 1998. All of the students were from classrooms using the same reading curriculum and reading series. It was discovered through the correction process that 16 of the students could not be used because they also received additional reading practice of an unverifiable amount through the Helping One Student To Succeed (H.O.S.T.S.) program.

Of the 60 students that remained in the study, 29 were female and 31 were male. They were from 17 different regular education classrooms. All of the students and teachers were trained in the Accelerated Reader Program and all were encouraged to participate at their own comfort level. The classroom teachers were encouraged to keep an assortment of Accelerated Reader books in their classroom libraries and to allow students to take Accelerated Reader tests on a daily basis. Students were encouraged to strive for completion of
various reading certification levels which involved reading fiction books, non-fiction books, picture books and chapter books as appropriate.

Data Collection

Data was collected in two parts. The first part was the pre-test. The S.T.A.R. test was administered as the pre-test on September 28, 29, and 30, 1998, to all independent readers in grades first, second, and third. After the pre-test, school-wide implementation of the Accelerated Reader program began and all students were encouraged to participate. At the end of the school year, the S.T.A.R. test was again given in a three day testing cycle to all first, second, and third grade readers on May 24, 25, and 26, 1999 as a post-test.

The students were placed into 3 groups according to levels of independent reading practice as determined by Accelerated Reader points. Low reading practice: 0-19 AR points. Mid reading practice: 20-49 AR points. High reading practice: 50 or more AR points. The mean scores for the low reading practice group and the high reading practice group were calculated for the pre-test and then for the post-test. Descriptive statistics, designed specifically to compare whether or not a significant difference existed between
the mean scores on the pre-test and post-test, were used. The t-test was utilized
to determine if a significant difference in reading achievement scores did exist.

In this chapter the author analyzed the student study population and
described the methodology of data collection. In the following chapter the
author will discuss the data analysis, results and the author’s conclusions.
CHAPTER FIVE

THESIS DATA ANALYSIS, RESULTS, AND CONCLUSIONS

Introduction

In Chapter One, the author identified that a major concern in education is the low levels of student reading proficiency. Due to the fact that this is also a major concern in the authors' own school district, she sought out research that would guide her elementary school in ways to improve student reading achievement. One method that educational research clearly supports is to increase independent student reading practice. Through this study the author attempted to verify that increased reading practice does yield increased reading achievement on standardized test scores.

Data Analysis and Results

Appendix A lists all the pertinent data with regard to this experiment. It was found that the test scores of the high reading practice group were significantly different from the test scores of the low reading practice group. Differences were calculated at the ninety-five percent confidence level for both groups. Therefore, the researcher rejected the null hypothesis. In layman terms, the data indicated that the students in the high reading practice group
grew from a mean grade equivalency average of 2.51 from the end of September 1998 to a mean grade equivalency average of 3.97 at the end of May 1999. That is an increase of 1.46 years in an 8-month period. The low reading practice group gained 0.84 years in the same 8-month period.

**Thesis Conclusions**

In chapter two the author presented the theoretical basis for this study based upon review of pertinent literature in the field of education. It was found that many important benefits arise from significant amounts of independent reading practice. Included in those many benefits are increases in comprehension, vocabulary development, writing ability, spelling, critical thought, literacy development, and increased student reading proficiency on standardized tests (*Critical Thinking*, 1997; *Honing*, 1996; T. Paul, 1996; *Reading for Life*, 1997; Rose & Nicholl, 1997; *Smith*, 1997). The Accelerated Reader program is based upon the premise that by providing students with self-selected, literature based reading that is at the students’ ZPD reading range and that is integrated into a motivational program, increased independent reading practice will result (*Teacher’s Handbook*, 1996). This study analyzed whether significant increased independent reading practice using the Accelerated Reader program actually resulted in increased reading achievement.
Based on the statistics that are presented in Appendix A, it can be assumed under the conditions of this experiment, that by significantly increasing independent student reading practice as verified by 50 or more Accelerated Reader points, student achievement above normal on the Standardized Test for the Assessment of Reading (S.T.A.R.) will result.

To control for internal and external validity the researcher took the following precautions: only students who scored an Instructional Reading Grade Level of 2 on the pre-test were selected for this study. Those students were from 17 random classrooms. The pre-test and post-test were monitored by the researcher in a structured setting. Neither students nor staff were aware that a study was being conducted. Only students who participated in the regular educational program and had taken the pre-test and post-test were included. All staff and students were inserviced the same and utilized the same Accelerated Reader materials.

To further evaluate the effects of increased student reading practice on student achievement, it should be noted that long-term data will be gathered and assessed on a yearly basis. It is the author’s hope that other researchers will conduct similar investigations and publish their findings to see what correlation exists among research experiments.
In conclusion, it seems logical based on the results of this study, that teachers in the authors' own school district should encourage all students in their classrooms to try to achieve a minimum of 50 Accelerated Reader points in their Zone of Proximal Development (ZPD) reading range during the school year period to achieve optimal reading proficiency.
CHAPTER SIX

RECOMMENDATIONS/PLANS FOR DISSEMINATION

To help other educators learn from this experimental study, the results of this study will be disseminated to the staff of the author’s elementary school at an inservice prior to the beginning of the 1999-2000 school year. They will be particularly interested in learning that increased reading practice as indicated by 50 or more Accelerated Reader points did significantly increase student reading proficiency on the S.T.A.R. test. This information will be useful to the teachers as they set class goals for their students.

In addition to sharing these results with my school colleagues, the author plans to share these results with the District Curriculum Coordinator who oversees the Accelerated Reader program at both the Upper Elementary School and the Middle School. Also this summer, the County Independent School District will be providing an Accelerated Reader inservice to educators in August of 1999. This inservice will be presented by personnel from the Institute of Academic Excellence, who may be interested in the findings of this study.
Finally, the author will attempt to have this thesis published as an ERIC document so that other educators who are interested in increasing student reading proficiency can learn from the research that was obtained.
References

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Cunningham, P.M., & Allington, R.L. (1994). Classrooms that work:


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APPENDIX A

*t-test of Significant Difference Between Two Sample Means*

<table>
<thead>
<tr>
<th>Group</th>
<th>Mpre</th>
<th>Mpost</th>
<th>SDPre</th>
<th>SDPost</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>A = High</td>
<td>2.5090909</td>
<td>3.9727272</td>
<td>0.3260075</td>
<td>0.5738084</td>
<td>7.0132825</td>
</tr>
<tr>
<td>C = Low</td>
<td>2.6250000</td>
<td>3.4666666</td>
<td>0.3897114</td>
<td>0.4624811</td>
<td>4.6156882</td>
</tr>
<tr>
<td>Difference</td>
<td>0.1159091</td>
<td>0.5060606</td>
<td>0.0637039</td>
<td>0.1113273</td>
<td>2.3975943</td>
</tr>
</tbody>
</table>

A = High reading practice students  \( N = 11 \) students
B = Mid reading practice students  \( N = 37 \) students
C = Low reading practice students  \( N = 12 \) students

Note:  Pre = Pre-test

Post = Post-test
**APPENDIX B**

*Color-Code for Accelerated Reader Books*

<table>
<thead>
<tr>
<th>Reading Level</th>
<th>Color-Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0 – 1.4</td>
<td>Single Red Dot</td>
</tr>
<tr>
<td>1.5 – 1.9</td>
<td>Double Red Dots</td>
</tr>
<tr>
<td>2.0 – 2.4</td>
<td>Single Blue Dot</td>
</tr>
<tr>
<td>2.5 – 2.9</td>
<td>Double Blue Dots</td>
</tr>
<tr>
<td>3.0 – 3.4</td>
<td>Single Orange Dot</td>
</tr>
<tr>
<td>3.5 – 3.9</td>
<td>Double Orange Dots</td>
</tr>
<tr>
<td>4.0 – 4.4</td>
<td>Single Green Dot</td>
</tr>
<tr>
<td>4.5 – 4.9</td>
<td>Double Green Dots</td>
</tr>
<tr>
<td>5.0 – 5.4</td>
<td>Single Yellow Dot</td>
</tr>
<tr>
<td>5.5 – 5.9</td>
<td>Double Yellow Dots</td>
</tr>
<tr>
<td>6.0 – 6.4</td>
<td>Single Light Blue Dot</td>
</tr>
<tr>
<td>6.5 – 6.9</td>
<td>Double Light Blue Dots</td>
</tr>
<tr>
<td>7.0 – 7.4</td>
<td>Single Purple Dot</td>
</tr>
<tr>
<td>7.5 – 7.9</td>
<td>Double Purple Dots</td>
</tr>
</tbody>
</table>
APPENDIX C

ACCELERATED READER CERTIFICATION LEVELS

- **INDEPENDENT READER** – Accumulate 10 points and read and test on 3 books independently at 80-100% accuracy.

- **PRO READER** – Accumulate 20 points and read and test on 5 Non-Fiction books at 80-100% accuracy.

- **SUPER READER** – Accumulate 30 points and read and test on 3 books of 1 point or higher at 80-100% accuracy.

- **AWESOME READER** – Accumulate 40 points and read and test on 10 additional Non-Fiction books at 80-100% accuracy.

- **ADVANCED READER** – Accumulate 50 points and read and test on 3 books of 2 points or higher at 80-100% accuracy.

- **HONORS READER** – Accumulate 60 points and read and test on 10 books included on the “Honors” reading list at 80-100% accuracy.

- **STAR READER** – Accumulate 70 points and read and test on 3 books at the 5.0 level at 80-100% accuracy.

- **CLASSIC READER** – Accumulate 80 points and read and test on 3 books at the 7.0 level at 80-100% accuracy.
APPENDIX D

**Accelerated Reader Point Tokens**

<table>
<thead>
<tr>
<th>Points</th>
<th>Reward</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>“My Principal is Proud of Me” pencil</td>
</tr>
<tr>
<td>50</td>
<td>“50 Point Club” button</td>
</tr>
<tr>
<td>75</td>
<td>“Pathfinder Accelerated Reader” pennant</td>
</tr>
<tr>
<td>100</td>
<td>Lunch with the Principal</td>
</tr>
<tr>
<td>150</td>
<td>“Principal for the Day” Award</td>
</tr>
</tbody>
</table>

* In addition to tokens, student names are read on the announcements and names are placed on the “Principal’s Point Club” bulletin board.
Principal Investigator: Deborah J. Morse

Department or School: School of Education, Educational Technology

Address and Telephone: 18 Meadow Hills Lane, Fremont, MI 49412, 616-925-6564

Title of the Project: Accelerated Reader: Does It Work?

Summary of the Project:
This study will investigate whether or not increasing independent reading practice, as verified by Accelerated Reader points, will yield greater achievement gains on a standardized reading test. Results will be determined using descriptive statistics at the ninety-five percent confidence level.

In what capacity does this project involve human subject? (e.g., surveys, interviews, clinical trial, use of medical records, etc.)

The human subjects will take a pre-test, read quality children's literature, use a piece of reading management software, and then take a post-test.

Check one:

_X_ This is a report on research on human subjects which is exempted by 46.101 of the Federal Register 4616:8336, January 26, 1981 (Refer to instructions on the second page of this form.)

_____ This is a request for expedited review as described in 46.110 of the Federal Register 46(16):8336, January 26, 19781. (Refer to instructions on the second page of this form.)

_____ This is a request for full review. (Refer to instructions on the second page of this form.)

Principal Investigator

Department Chair or Advisor

6/1/99

Date

6/1/99

Date
TO: G.V.S.U. Advanced Studies In Education

FROM: John Fazer, Building Principal

DATE: July 19, 1999

SUBJECT: Data Collection for Research Study
Ms. Deborah Morse - "Accelerated Reader - Does It Work?"

It is my pleasure to authorize Ms. Deborah Morse to analyze the data from our S.T.A.R. Testing program for involvement in her masters degree project.

Ms. Morse is the building coordinator for our Title I program and school-wide testing programs. She will be doing a study of our pre and post S.T.A.R. testing results to see if there has been a significant greater gain in reading comprehension among students that have read extensively during the school year and those who have not read on a regular basis.

The findings from her study will be used to demonstrate to parents and teachers the need for increased hands on reading at home and during the school day. Thank you very much for your support and direction given to Ms. Morse during her project. I certainly appreciate the valuable work that she does for us.

Sincerely,

John Fazer
Building Principal

District Mission Statement:
Fremont Public Schools, in partnership with parents and our community, strives to educate all students, inspiring them to become lifelong learners and responsible citizens.
NAME: Deborah J. Morse

MAJOR:

- X Ed Tech
- Elem Ed
- Elem LD
- Ed Leadership
- G/T Ed
- Sec LD
- Read/Lang Arts
- Sec/Adult
- Early Child
- SpEd PP

TITLE: Accelerated Reader: Does It Work?

PAPER TYPE: X Thesis

SEM/YR COMPLETED: Summer 1999

SUPERVISORS'S SIGNATURE OF APPROVAL:

Using the ERIC thesaurus, choose as many descriptors (5-7 minimum) to describe the contents of your paper.

1. Reading Achievement
2. Reading Instruction
3. Reading Attitudes
4. Computer Assisted Instruction
5. Reading Improvement

ABSTRACT: Two to three sentences that describe the contents of your paper.

This research study concluded that substantially increased independent reading practice, as verified by 50 or more Accelerated Reader points, does in fact yield significant improvements in student reading achievement on a standardized reading test. This study supports the claim that the Accelerated Reader program does work to improve student reading proficiency.