ABSTRACT OF APPLIED PROJECT

Larry M. James

Graduate School
Morehead State University
2008
THE EFFECTS OF THE ACCELERATED READER PROGRAM
ON THIRD GRADE ELEMENTARY STUDENTS

ABSTRACT OF APPLIED PROJECT

An applied project submitted in partial fulfillment of the requirements for the degree of Education Specialist, at Morehead State University

by

Larry James
Committee Chair: Dr. David Barnett
Associate Professor of Education
Morehead, Kentucky
2008
THE EFFECTS OF THE ACCELERATED READER PROGRAM
ON THIRD GRADE ELEMENTARY STUDENTS

Director of Applied Project: Dr. David Barnett

This study centered on one research question: Do Accelerated Reader programs contribute to a significant increase in reading scores as compared on the Terranova Achievement Test?

An independent t-test by SPSS was used to test data that was collected over a two-year period. The population for this study included 53 (23 females and 30 males) for school 1 (A.R.) and school 2 (non-A.R.) had a total of 42 students (19 females and 23 males). The participants were from two bordering school districts in eastern Kentucky.

The mean score for the A.R. school was not statistically different from the mean score of the non-A.R. school.

Accepted by:

[Signatures]

Chair
APPLIED PROJECT

Larry M. James, M.A. in Education

Graduate School
Morehead State University
2008
THE EFFECTS OF THE ACCELERATED READER PROGRAM
ON THIRD GRADE ELEMENTARY STUDENTS

APPLIED PROJECT

An applied project submitted in partial fulfillment of
the requirements for the degree of
Education Specialist,
at Morehead State University

by
Larry James
Committee Chair: Dr. David Barnett
Associate Professor of Education
Morehead, Kentucky
2008
Accepted by the graduate faculty of the College of Education and Behavioral Sciences, Morehead State University, in partial fulfillment of the requirements for the Education Specialist Degree in Instructional Leadership

David Barnett
Director of Applied Project

Applied Project Committee:

David Barnett, Chair

Victor Bullestero

May 7, 2008
Date
# TABLE OF CONTENTS

## CHAPTER I Introduction
- Introduction ................................................................................. 1
- Purpose of Study ........................................................................... 2
- Statement of Problem ................................................................... 3
- Definition of Terms ....................................................................... 3
- Major Limitations ......................................................................... 3
- Significance of Study .................................................................... 4

## CHAPTER II Review of Literature
- Introduction to Review of Literature ............................................. 5
- Educational Games and Simulations ........................... 5
- Computer-Based Education ....................................................... 8
- Four Blocks ............................................................................... 11
- Success for All ........................................................................... 12
- Reading Recovery ....................................................................... 14
- Accelerated Reader ................................................................. 15
- Dissent of Accelerated Reader ................................................... 18

## CHAPTER III Method
- Design of the Study ...................................................................... 33
- Participants ................................................................................ 33
- Instrumentation .......................................................................... 34
- Design ....................................................................................... 35
- Procedure .................................................................................. 35
- Data Analysis ............................................................................. 36

## CHAPTER IV Results ................................................................... 38

## CHAPTER V Discussion ................................................................. 40

## REFERENCES .............................................................................. 46
CHAPTER I
INTRODUCTION

Kentucky has undergone numerous changes since the implementation of the Kentucky Education Reform Act (KERA) of 1990. The journey from an educational system that was ruled unconstitutional by the Kentucky Supreme Court to an entirely new approach of educating children was a daunting task. KERA places a strong emphasis on academic achievement and an accountability system that sets goals for schools, establishes learner expectations and monitors the achievement of these expectations. One of the major tenets of KERA is that students should be able to demonstrate that they can apply what they know and not the mere knowledge of facts. Schools are expected to meet or exceed their individual goal every two years in order to reach proficiency by the year 2014.

In the wake of high stakes accountability, educational leaders across the nation are facing the pressure to improve student performance. The No Child Left Behind Act (NCLB) of 2001 has demanded that all schools make adequately yearly progress (AYP). AYP is based upon each school’s assessment data. However, since funding for such changes are lacking, financial support is limited. Thus, instructional leaders must choose wisely the educational programs they select to implement and focus on the cultivation and development of effective teaching strategies that will encompass the multiple learning styles of students.

Collectively, educators share a concern that some students are not motivated to read and are not developing lifelong reading skills. Motivation is a key to learning these
lifelong skills. Obtaining this objective begins with the task of making learning a pleasurable experience. Recent advances in technology have produced a surge of new and innovative teaching strategies for teachers.

The Accelerated Reader Program, a computer based reading management system, creates a manageable system that allows teachers and students to monitor student academic progress. The goals of this program include, "That schools will show increased improvement in overall academic performance as well as higher attendance rates (Reading Renaissance, 2002, p. 10). Changes in teaching strategies, effective use of technology in classrooms and the impact of instruction are key variables in this project.

Educators must strive to use the most current and proven teaching strategies in order to improve our school system. This study will investigate the instructional value of the Accelerated Reader Program regarding third grade students in two elementary schools in eastern Kentucky.

*Purpose of the Study*

The purpose of this study is to investigate the relationship between third grade students who learned reading skills with the assistance of an Accelerated Reader Program and third grade students who learned reading skills through the traditional lecture method. Throughout the description of the study, Accelerated Reader will be referred to as AR and traditional lecture method as TLM. Information related to each respective school's test data for the years 2001-2002 and 2002-2003 were obtained from the principal of each school.
Statement of the Problem

Do Accelerated Reader Programs contribute to an increase in reading test scores as measured by the TerraNova Achievement Test? The TerraNova Test data that will be used for comparison is from the 2001-2002 and 2002-2003 school years.

Definition of Terms

The following terms were used in the study. Definitions of these terms are given to provide clarity to the study:

1. **Educational games** – learning activities that involve rules, competition, and players who become winners and losers.

2. **Simulation** – can be a computer program or a role-playing activity that gives the illusion of reality but removes most of the elements that are irrelevant and those that would be dangerous to the participants.

3. **Traditional lecture method** – the technique commonly used that involves a discourse on a given subject by the instructor. This method is teacher centered meaning the instructor is the focus of the learning environment with little or no participation from the class.

4. **2001-2002** – the first year of TerraNova Test data used for comparison.

5. **2002-2003** – the second year of TerraNova Test data used for comparison.

Major Limitations

The major limitation pertaining to this study is that pre-test data and post-data are limited to only two schools. No attempt was made to identify other elementary schools.
that met the criteria of the participating schools in this particular study. Therefore, the conclusions of this study are not generalizable to the larger population.

**Significance of Study**

In order to measure the success of instructional strategies and reading programs, it becomes necessary to examine the components of different programs. In the wake of high stakes accountability and limited funding for schools, educational leaders must research and then choose wisely educational programs and strategies they want to implement for their respective schools and districts.

Although the Accelerated Reader Company promotes itself as the world’s most popular reading management software company (Reading Renaissance, 2002), there is a significant lack of independent evaluations of the program. This research study provides one independent evaluation of the effectiveness of the program on third grade students from two similar elementary schools in eastern Kentucky.
CHAPTER II

REVIEW OF LITERATURE

This chapter represents a review of the literature related to research based and computerized instructional strategies for reading. The review will examine various research based reading programs as well as the computer based Accelerated Reader Program in order to gain insight and to understand the effectiveness various programs have upon the quality of instruction.

Educational Games and Simulations

"Computer games and simulations can be defined as interactive multimedia with dynamic elements that are under user control" (Reiber, 2005, p. 549). Simulations can enable students to develop and expand on their familiarity with a subject area while engaged in an activity. "Students who use simulations report that they feel more confident in their skills when later working with real materials" (Ronan & Eliahu, 2000, p. 20).

Oblinger (2006) states that games and education are controversial in that games are typically associated with play and childhood. "Assertions that games must be used to make learning fun ignore the fact that students who are deeply engaged in learning consider it both fun and hard work" (p. 1).

Haas (1990) conducted a study on the effect of educational games in an elementary classroom. She contended that small group educational games elevate student time on task over whole class time. She suggested that leadership opportunities were provided when games were in use. The value of educational games include following
directions, practicing social skills, reviewing information, making cognitive decisions, and living with the consequences of decisions. The use of games may save instructional time that would otherwise be wasted at the beginning or the end of the class period. She concluded that games were beneficial in developing both cognitive and social skills.

Schwartz (1990) investigated the use of simulation in an elementary classroom. Schwartz was interested in the theory because simulations alleviated the boredom some students experienced through instruction. Schwartz concludes the use of simulations would not only motivate student enthusiasm, but also create interest in the subject studied.

Oblinger (2006) states that games and simulations can be very effective learning environments because they have the following attributes listed below that are associated with how people learn:

Social - games are often social environments.
Research – players must recall prior learning, decide what new information is needed and then apply it to new situations.
Problem solving – knowing what information or technique to apply in which situations enables greater success.
Transfer – games require transfer of learning from life, school and other games.
Experiential – for each action, there is a reaction and the users learn from the results.
“Even though playing games can be an effective way of learning, educators must plan and develop strategies in order to integrate games into the curriculum” (p. 2).

Sweeney (1990) implied that students who took part in simulations tended to ask more questions and showed more interest and enjoyment in their subject. Sweeney stated that when teachers took on the role of facilitator, students assumed more responsibility for their own work and learning, worked at individual paces, and demonstrated an increase in cooperation skills. Sweeney concluded that: “Affective outcomes are definitely improved and some studies have also demonstrated minor increases in cognitive learning” (p. 282).

Even supporters of TLM are attempting to improve the method. Burlbow (1991) suggested that TLM might be improved with the use of role-playing simulations. These simulations allow the student to become an active learner who is involved in the learning process. Burlbow explained that the teacher-led simulation is one way to involve students in a teacher’s lecture. Students do not passively sit and take notes because they become active participants in the development of concepts and understandings about events in their class.

Other researchers conclude that educational games and simulations are effective in several areas of education. Sulock (1990) suggested the use of educational games and simulations in economics class inspired students to become involved and prompted class discussion. Westwood (1994) implemented simulations in a counselor education program and concluded that students more actively participated in class discussions.
VanVoorhis (1991) reinforces the idea that educational games will improve cognitive and affective skills in her study of the effects of cooperating learning including the use of games. She concluded that cooperative learning had a positive effect on student skills and attitudes toward learning.

Computer-Based Education

During the 1970's, schools began acquiring computers and began using them for instruction, drill and practice, record keeping and other applications. Then, during the decade of the 1980's, the use of computers in schools expanded rapidly. Kinnaman (1990) notes that between 1981 and 1989, the number of schools owning computers increased from 25 percent to virtually 100 percent by the end of the decade and by 1990, more than half the states began recommending or requiring pre-service technology programs for all prospective teachers.

Since computer hardware and software, programs require a considerable monetary investment, many educators, legislators, parents and researchers want assurance that the use of computers in schools enhance learning (Cotton, 1991). Cotton (1991) analyzed 59 research reports in search of evidence that the use of computers do enhance learning. Each of those 59 reports supports the notion that there is a relationship between computer based learning and positive student outcomes.

Before reviewing Cotton's research findings, it will be helpful to include some definitions of computer-assisted instruction involving computers that are used in the findings. The following is a list of commonly accepted definitions that are a synthesis of
several researchers offered by Bangert-Drowns, et al. (1985) regarding computer instruction:

Computer based education (CBE) and computer based instruction (CBI) are the broadest terms and can refer to any type of computer use including drill and practice, tutorials, simulation, instructional management, supplementary exercises, programming, database development, word processing and other applications. These terms may refer to stand-alone activities or activities that reinforce material taught by a teacher. Computer assisted instruction (CAI) is a narrower term and most often refers to drill and practice, tutorial or simulation activities offered as stand alone or supplementary to instruction.

Computer managed instruction (CMI) can refer either to the use of computers by school staff to organize student data in order to make instructional decisions or to activities in which the computer evaluates test performance, guides them to instructional resources and keeps records of their progress. Computer enriched instruction (CEI) refers to learning activities in which computers generate data at the students’ request to illustrate models of social or physical reality, execute programs developed by the students or provide general enrichment in unstructured exercises designed to stimulate and motivate students (Cotton, 1991, p. 2).

Most of the studies noted in Cotton’s work involved American students with some Israeli and Canadian subjects. Student populations that were a part of the studies included economically disadvantaged, special education, remedial and Hispanic students. The 59
reports consisted of the effects of the following types of educational computer use on student outcomes: CAI (35), CBE (15), use of word processors for composition (5), CMI (3), programming (2) and simulations (4) (Cotton, 1991).

The best-supported finding is that the use of CAI as a supplement to traditional, teacher directed instruction produces outcomes superior to those obtained with traditional instruction alone. In general, those results holds true for students of all different ages and abilities. Additionally, research has shown that concerning student writing outcomes, word processing programs are more congruent with the process of writing than just pencil and paper. The research findings also show that CAI is more effective with younger students than older students. While CAI is beneficial to all students, the impacts decreased from the elementary level to the secondary level. In addition, lower-achieving students achieve greater benefits from CAI than the higher achieving students. This holds true because most CAI programs consist of drill and practice, privacy, immediate feedback and reinforcement (Bahr and Rieth, 1989).

Traynor (2003) conducted a research study in order to determine how computer assisted instruction improves student performance among various types of students. The types of students selected for the study included 161 middle school aged students that consisted of special education, non-English proficient, limited English proficient and regular education students.

The middle school that was selected offers a computer assisted instruction class that uses the computer program Cornerstone. In this program, students work on each specific course and progress through all lessons in sequential order. The courses all
students take are language arts, math, reading comprehension or reading vocabulary. All students work on language arts on Monday, math on Tuesdays, reading comprehension on Wednesdays and reading vocabulary on Thursdays. The students are then given a choice of which course to work on Fridays. The data included pre-test and post-test scores. The duration of the study lasted 70 days and the computer program stored all data including all the pre-test and post-test results. “The ANCOVA test was performed for comparing the pre-test and post-test gains among the different groups of students” (Traynor, 2003, p. 7). In addition, a dependent t-test was performed to determine if the CAI made a significant improvement toward overall student learning.

“The results indicated that the CAI program, Cornerstone, increased overall student learning” (Traynor, 2003, p. 9). According to the dependent t-test, the pre-test had an overall mean of the 54.4 and the post-test had an overall mean of 64.5. The results show a significant difference in the pre-test and post-test gains of special education and regular education students.

Four Blocks

The Four Blocks Literacy Framework was developed during the 1989-1990 school year while being implemented in a first grade classroom. “Four Blocks has two major goals: to provide beginning readers with instruction consistent with the four major approaches to learning to read and to provide multi-level instruction that meets the needs of children on a wide range of reading levels” (Cunningham & Hall, 2002, p. 2). Four Blocks include teacher read aloud and independent reading during the Self Selected Reading Block. Comprehension instruction is included during the Guided Reading Block.
The Working with Words Block includes phonics instruction and the Writing Block includes writing instruction (Cunningham, Hall, & Defee, 1991).

“The first goal of the Four Block Program provides beginning readers with instruction from various approaches is supported by the First Grade studies conducted in the 1960’s. This large national study concluded that the teacher was more important than the method and that combination approaches worked better than any single approach” (Cunningham & Hall, 2002, p. 1).

The second goal of the Four Block Program was more revolutionary. “In the late 1980’s, most primary teachers tried to meet the goals of struggling readers by placing them in the bottom reading group while pacing their reading instruction more slowly” (Cunningham & Hall, 2002, p. 1). Research has shown that students placed in the bottom reading groups usually remain there throughout elementary school and almost never learn to read on grade level (Cunningham & Hall).

**Success for All**

Success for All is a reading program designed to ensure the reading success of every child by implementing innovative instructional techniques in kindergarten through fifth or sixth grade. A key program goal is to ensure that all children read at grade level by the third grade. The different instructional approaches used are one on one tutoring for primary aged children who are struggling with reading, family support programs and professional development for the staff that are intended to lead to implementation as well as replicability. “The Success for All Program has structured student materials, teacher
manuals and assessments for every aspect of the program at each grade level” (Slavin, et al., 1996, p. 45).

Success for All begins in kindergarten and focuses on thematic units, interdisciplinary units, storytelling, language development activities, phonemic awareness and other elements designed to build oral language, background knowledge, and concepts of print and pre-literacy skills. Children who experience difficulty with reading receive daily one on one instruction from a certified teacher or trained paraprofessional. Beyond first grade, teachers use instructional strategies, such as, cooperative learning teams focusing on main idea summarization, vocabulary building, home reading and creative writing. Also, Success for All offers schools strategies for increasing parental involvement, increasing attendance, improving classroom management and other non-academic problems.

Success for All program developers have found that students in the lowest 25 percent of their grade on pre-tests reap the greatest benefits from the program. This means that the students with the greatest risk of failure perform better and at a faster pace than students in non-Success for All schools. Success for All students in higher quartiles of their classes outperform non-Success for All students but not to the same extent. This statement has been found true consistently by external evaluators of the program (Slavin, et al., 1996).

A statewide evaluation of Success for All was conducted in Texas and used state test data from 1994 – 1998. There were a total of 111 Success for All schools across grades 3, 4, and 5 that were included in the test data. The Success for All schools testing
data was compared to the non-Success for All schools. "The results were that Success for All schools gained an average 5.85 more percentage points per year from grades 3-5 than the non-Success for All schools from 1994-1998" (Hurley, Chamberlain, Slavin & Madden, 2001, p. 5).

**Reading Recovery**

Reading Recovery is a popular reading program that was developed in the mid-1970's in New Zealand by educator and psychologist Marie Clay. "Reading Recovery is a program developed to assist children in the first grades that are having difficulty learning to read" (Clay, 1993, p. 3). The program moves these children from the bottom of their class to the average where they can benefit from regular classroom instruction. Reading Recovery is an early intervention, tutoring program for young readers who have trouble in their first year of reading instruction. Reading Recovery targets the lowest achieving readers in first grade by providing supplemental tutoring in addition to their regular reading classes. Those children receive daily one on one instruction in 30-minute lessons with a certified Reading Recovery method. The lessons include reading known stories, reading a story that was read once the day before, writing a story, working with a cut-up sentence and reading a new book. Reading Recovery teachers use a variety of books appropriate to each child’s reading level. Reading Recovery tutors are certified teachers who receive an additional year of training in Reading Recovery tutoring (Schmitt, 2003).

"The professional development of teachers is an extremely important part of this program. The training consists of an intense, year-long graduate course for teachers
consisting of weekly classes affiliated with a university-based regional training center. While teachers learn how to implement the program, they work with children in their home schools. The professional training these teachers have received allows them to influence the teaching strategies in their schools” (Clay, 1993, p. 10).

Independent studies of Reading Recovery conducted by researchers who are not associated with the program have concluded that tests given immediately after Reading Recovery intervention show positive effects. An extended series of studies of the Reading Recovery program shows that the program is successful in accelerating 3 out of 4 students up to the level of their peers. Research indicates that Reading Recovery students become average or better readers in first grade as well as develop a self-extending learning system, which enables them to continue learning as rapidly as their peers in later grades. Fourth grade Reading Recovery students demonstrated that they could accurately read text at the sixth grade level or above (Schmitt, 2003).

**Accelerated Reader**

The Renaissance Accelerated Reader program is a comprehensive school reform model that is designed by Advantage Learning Systems. The program supports any curriculum or teaching method that any school would incorporate into their curriculum. Some research suggests that Accelerated Reader is successful among all grade and ability levels of students from pre-kindergarten through twelfth grade. “Teachers who use this program report better student attendance, fewer behavior problems and greater job satisfaction” (Reading Renaissance, 2001, p. 1).
The Accelerated Reader program is based on the following seven principles:

(1) Increased practice time. Products and strategies give students extended time to practice essential skills. (2) Appropriate level. Focuses practice in each student's zone of proximal development leads to optimum growth. (3) Information feedback. Gives both teachers and students immediate information to help manage and target instruction. (4) Personalized goal setting. Easy for teachers and students to set and monitor progress toward challenging goals. (5) Best use of technology. Computers store and report information regarding progress. (6) Research proven effectiveness. Use only products proven by research to accelerate learning. (7) Universal success. All teachers and students can achieve success when properly implemented" (Reading Renaissance, 2002, p. 2).

"Accelerated Reader combines those seven principles with motivational strategies, effective instructional strategies and learning information systems software to help monitor and guide reading practice" (Reading Renaissance, 2002, p. 3). Students spend sixty minutes each day being read to, reading with a peer, or reading books independently. The students then use the Accelerated Reader computer software to take a selected response quiz that measures their comprehension of the book. Quizzes are designed to assess literal comprehension of each specific book. Teachers guide the book selection process to ensure students are reading in their zone of proximal development. "Zone of proximal development is the range of difficulty that will neither be too easy or too difficult for the student to read" (Reading Renaissance, 2002, p. 3). According to the
Accelerated Reader program, students should maintain an average of eighty-five percent correct on the Accelerated Reader quizzes for optimal reading improvement. Teachers are used mostly as facilitators in monitoring and guiding students but they also teach focused lessons on essential skills called Power Lessons (Reading Renaissance, 2002).

Penuel (1997) analyzed longitudinal data on norm-referenced tests of reading and language for nineteen elementary schools that had used Accelerated Reader for an average of two years. Actual gains were compared to expected gains. “A comparison of the test results revealed that students in third and fourth grades achieved higher than expected gains in language and reading” (Penuel, 1997, p. 21).

During the 1999-2000 school year, the McKinney Independent School District began a three-year implementation process of Accelerated Reader for their pre-kindergarten through high school students. The Texas Center for Educational Research was hired to conduct an independent evaluation of the program. The results of the evaluation show that even in the first year of implementation, McKinney students showed improvement. Students in elementary school showed accelerated growth in reading achievement as shown by both STAR Reading and the Texas Assessment of Academic Skills (TAAS). STAR Reading is a computer adaptive norm referenced reading assessment that provides an accurate measure of students' reading comprehension in ten minutes. The STAR Reading Test can be administered throughout the year in order to track reading growth. Results of the STAR Reading tests show that all elementary students in the McKinney School District gained an average of seven percentile points. The TAAS (Texas Assessment of Academic Skills) also showed improvement and those
students in grades four and five gained more than one year’s growth in reading (Texas Center for Educational Research, 2001).

Generally speaking, the schools and school districts of those noted in the study that have implemented Accelerated Reader have experienced significant gains in reading achievement. Students read more than the national average and experience accelerated growth in reading more rapidly than students who do not participate in Accelerated Reader. Continued improvements in the implementation as well as monitoring students to make sure students read at the minimum of 60 minutes per day should lead to even greater gains in reading achievement.

Dissent of Accelerated Reader

Even though the Accelerated Reader company promotes the program as the world’s most popular reading management software, there are very few peer reviewed journal articles and independent evaluations of the program (Biggers, 2001). Biggers questions how Accelerated Reader defines the zone of proximal development for each student. He states, “The STAR Test is a high tech cloze procedure and does not include teacher observations or oral reading comprehension to identify a student’s strengths and weaknesses” (Biggers, 2001, p. 2). He concludes that the most problematic area of concern is that many schools use Accelerated Reader as their reading program and not as a supplementary part to a balanced reading curriculum.

Krashen (2003) found consistent evidence that those “students who have more access to books read more and students who are provided with more time for recreational reading do show better gains in reading achievement”. “However, there was very little
evidence found that shows a positive correlation between earning points on computerized tests and prizes to improved reading comprehension” (Krashen, 2003, p. 1).

Pavonetti, Brimmer and Cipielewski (2002) investigated reading habits of middle school students who used the Accelerated Reader Program during their elementary school years. The participants were 1,536 seventh grade students from three school districts while some of the students had Accelerated Reader in elementary school and some did not. Students who were in their respective school district during their 5th grade year were included in the study. The participants took the Title Recognition Test in which the subjects must recognize actual target items (book titles) when they are embedded among foils (phrases that are not book titles). The researchers used a t-test to compare the students who had Accelerated Reader in elementary school to those students who did not have Accelerated Reader in elementary school. The results showed no significant difference -.008. “Even though the results showed no significant difference between the two groups of students, the results indicated that the trend across all 3 districts indicated that students who did not participate in the Accelerated Reader Program in elementary school read more than students who did participate in the Accelerated Reader Program in elementary school” (Pavonetti et al., 2002, p. 7).

Pereira (2003) analyzed the effectiveness of Accelerated Reader as it relates to reading comprehension. Pereira categorized the study based on the characteristics of the population sample. The categories were: (1) students who were considered at-risk; (2) students who were either not discussed in terms of ethnicity / socioeconomic status or were not considered to be at-risk. The study defines at-risk students as students who
receive free or reduced lunch. The at-risk students utilized in the following studies came from urban and rural areas and were not labeled into any one ethnic group. The studies were aimed at providing research that examined the effects of at-risk students’ reading comprehension skills with the use of the Accelerated Reader program. The age groups ranged between the first grade and sixth grade while most of the studies were mainly in the range of third grade and sixth grade. The size of the populations in the studies ranged from 12 students to over 1,200 students. Many of the researchers used experimental and control groups at comparable schools, but they did not discuss how comparable the schools were and if their differences may have contributed to the results of the studies.

Kambarian’s study (as cited in Pereira, 2003) questioned the effect of Accelerated Reader on second grade through sixth grade at-risk students. The researcher had a control group of 31 at-risk students and 72 students who were not considered at-risk. The experimental group (received the Accelerated Reader treatment) consisted of 38 at-risk students. The experimental group had very few students who were not considered at-risk and were not included with the experimental school’s sample. The results obtained from the study were not statistically significant. Kambarian utilized the TerraNova norm-referenced test to determine if there were improvements in reading scores comparing the at-risk and non-at-risk students.

Kambarian utilized two elementary schools in St. Louis, Missouri. The experimental school, Alpha, had an average at-risk population of 73%. Alpha School also used the district basal series and sustained silent reading while also giving extrinsic rewards as a motivational tool to use Accelerated Reader. The control school, Beta, had
an at-risk population of 48%. Beta School only used the basal reading series during reading time.

Kambarian found that there was a marginal increase, though not statistically significant, in the experimental group's reading scores on the TerraNova test. Even though not statistically significant, the researcher also discovered there was an increase in the overall gains of the at-risk students as compared to the non-at-risk students in the overall gains in reading. The researcher attributed these growths to the use of the Accelerated Reader program, but it is difficult to generalize this study because of the small and specific population of the participants.

In addition, the researcher does not specifically explain the similarities and differences of the Alpha and Beta schools. The at-risk population of the two schools was not as similar as would be desired in a scientific study. As previously stated, the results were not statistically significant and the increased gains were minimal.

A master's degree thesis, written by Nancy Facemire (as cited in Pereira 2003), studied the effect of Accelerated Reader on the reading comprehension of third grade students at a school in West Virginia with an at-risk student population of 60%. Facemire randomly selected two third grade classrooms within the school for her study. The experimental group consisted of 15 students, 9 boys and 6 girls. The control group contained 21 students, 12 boys and 9 girls. The duration of the study lasted nine weeks. All of the students were given an extra 20 minutes of sustained silent reading time and the experimental group received extrinsic rewards as a motivational tool to reward them for reading and taking the Accelerated Reader quizzes. The third graders in the study
were given the same treatments except for the use of Accelerated Reader and the extrinsic rewards. Facemire utilized the STAR reports to determine the effectiveness of the Accelerated Reader on reading comprehension. Each student was given a pretest with the STAR program and then a posttest at the end of the nine-week period.

The experimental group’s mean score on the STAR reading comprehension test showed an increased gain of 17%. The control group gained only 9%. Facemire concluded this was a statistically significant gain in reading comprehension.

The concerns with this study include the small sample size, socioeconomic status of the students and the use of the STAR test as a reliable tool to measure reading comprehension. The sample size was very small and the length of the study was not long enough the make generalizations regarding the effectiveness of Accelerated Reader. The researcher did not describe the socioeconomic status of the students that participated in the study. Sixty percent of the students at that school were at-risk, but we do not know the percentage of at-risk students in the experimental and control groups. Another concern is the use of the STAR test. The STAR test is created to work with the Accelerated Reader program and may not be a reliable tool to test students in the control group.

In a study by Sadusky and Brem (as cited in Pereira, 2003), research was conducted on the effects of Accelerated Reader and academic reading growth. The sample size consisted of two elementary schools in Phoenix, Arizona. The experimental school, School A, had 625 students, 36% were considered at-risk. The control school, School B, had 617 students, 18% were considered at-risk. School A had completely
implemented Accelerated Reader and School B had not fully implemented the Accelerated Reader program. The study was a five-year longitudinal study and the results were considered to be statistically significant.

The researchers compared reading scores for the five-year period on the SAT 9, a norm referenced test given each year district wide, and compared the reading average from School A and School B. The results showed there was a significant increase of 185 in School A. This increase showed across at-risk status, gender and ethnicity. School B, the control group, showed no significant gains.

The sample size and the duration of the study was greater and longer than other studies. The researchers do not explain the similarities and differences of the two schools. The at-risk population was very different and also the scores of the control group were not included in the study.

Another concern was the changes to the school and population over the course of a five-year study. The study could possibly be generalized to the larger public, but there were numerous variables that needed to be controlled and explained.

Howard (as cited in Pereira, 2003) completed a study in 1999 that questioned the effect of the Accelerated Reader program on the reading vocabulary and comprehension of third grade through fifth grade students located in seven Title I schools in southeast Virginia. The population sample consisted of eighty percent of the student population were considered at-risk. There were 166 students in third grade, 297 in fourth grade and 292 students in fifth grade. The results of the study were considered statistically
significant at the .05 level. The duration of the study lasted nine months. The researcher used the Gates-MacGinitie norm-referenced test for collecting pre-test and post-test data.

The results of the study showed that after students participated in Accelerated Reader, the number of students scoring below grade level decreased significantly. The third grade results showed a change of 44.58% in vocabulary and 39.76% in comprehension. In fourth grade, there was a change of 24.24% in vocabulary and 32.66% in comprehension. In fifth grade, there was a change of 8.9% in vocabulary and 18.84% in comprehension for students moving from below grade level to at or above grade level.

From the test results, it appears all three grade levels improved with third grade students improving the most. The study did clearly show that at-risk students who were considered below grade level did benefit from the Accelerated Reader program. However, the researcher did state there was a lack of monitoring in areas of implementation integrity and the level of participation. Those two variables could have skewed the results of the study, thus the level of generalizability was still low.

Vollands, Topping and Evans (as cited in Pereira, 2003) conducted a study to determine the effects of the Accelerated Reader program in a different cultural setting. The sample consisted of sixth graders of low socioeconomic status in Aberdeen, Scotland. There were 39 total students in the study, 27 in the experimental group and 12 in the control group. Many students were diagnosed with reading delays, special needs and English as a second language status. The study lasted six months.

A quasi-experimental, pretest-posttest design was used in the study. The researchers used the Edinburgh and Neale norm referenced reading tests to compare gains
in comprehension and accuracy. The experimental group and the control group had similar pretest scores according to the Edinburgh and Neale tests.

The results reflected that the experimental group increased significantly on reading comprehension and accuracy. The results of the other comprehension test showed that both the experimental and control group actually decreased.

The results of the study are questionable. Even though the experimental group showed significant gains on one of the tests, the other tests showed both groups decreased in reading comprehension. Other concerns would be the small population size, variables of the type of teacher instruction and the various levels of special needs students. These compounding variables make the study unreliable.

Peak and Dewalt (as cited in Pereira, 2003) questioned the impact of Accelerated reader on reading skills of middle school students. The researchers randomly selected 50 students taking prep classes in Gaston, North Carolina. One class of 50 students had utilized Accelerated Reader for five years while the other 50 students had never participated in the Accelerated Reader program. The population sample was considered to be non-minorities. A positive effect was found within the scores of the experimental group, but the results were not statistically significant. The students' scores were part of a five-year retrospective study that used the norm-referenced California Achievement Tests (CAT) scores from the students' third, sixth and eighth grade years. The reading comprehension growth found in the scores for the experimental group obtained an average yearly gain of 15.3 points between the third grade and sixth grade CAT and then lowered to 13.2 between sixth grade and eighth grade. The control group gained 10.2
points between third grade and sixth grade and then 5.5 points between sixth and eighth grade. The researchers concluded the Accelerated Reader program had a positive effect on reading comprehension of middle school students.

The weakness in the study lies within the sample population. The sample size was too small and specific to generalize the results. The researches used students who were in college prep classes and not in regular classes. Also, the researchers stated the high schools were similar, but did not discuss the similarities in the middle schools and elementary schools that the students would have attended during the timeframe of the study. The means of the students’ scores were used and not the actual scores which leads to the possibility that the scores could have been skewed if outliers had been present during the study.

Mathis (as cited in Pereira, 2003) conducted a research study on 30 sixth grade students located on a rural farm community in Illinois. Mathis wanted to determine if the use of Accelerated Reader could cause an increase in reading comprehension scores. The population sample had a lack of cultural, ethnic and socioeconomic diversity.

The design the researcher utilized was a pretest-posttest design that only had an experimental group. The norm-referenced test that was used for data collection was the Stanford Achievement Test (SAT). The pretest was completed in the spring of the students’ fifth grade year and then Accelerated Reader was implemented at the start of the sixth grade. The posttest was then completed in the spring of the students’ sixth grade year. The researcher also acquired the SAT scores from the experimental group’s fourth grade year as well. The researcher then compared growth of the reading comprehension
scores from the end of fourth grade to the fifth grade and growth from the pretest in fifth
grade to the posttest in sixth grade.

The results concluded no statistically significant increase in reading
comprehension scores after one year of Accelerated Reader as compared on the SAT. The
researcher did note that after the implementation of Accelerated Reader, students chose
books below their grade level and this may have affected the results of the study.

Scott (as cited in Pereira, 2003) questioned the effect of Accelerated Reader on
the academic growth of students with learning disabilities. The study lasted four months
and took place in Guinnett County, Georgia. The population sample consisted of 28
students in grades six through eight, were predominantly white, upper middle class
socioeconomic status and were labeled to have learning disabilities.

The researcher utilized self-contained learning disabled classrooms from three
different schools in the school district. Schools A and B were the control schools and one
classroom from each school participated in the study. Two self-contained classrooms
from School C were considered the experimental group. There were a total of 12 students
in the control group and 16 students in the experimental group. The researcher used a
pretest-posttest design using the STAR test as a tool for data collection.

The results showed a decrease for the mean score of the control group from the
pretest score of 4.75 to a mean posttest of 4.25. The experimental group had a mean
pretest score of 2.81 and a posttest score of 3.50. The control group actually decreased
while the experimental group had an increased gain of .69, which was not considered to
be statistically significant.
The weaknesses of the study consisted of a small sample size, the similarities of the three different schools utilized and broad range of the types of learning disabilities was not discussed in the study. The duration of the study was not long enough and the use of the STAR test was questionable due to the validity of the test. The fact that the mean score of the control group decreased could have been due to the composition of the students utilized in the study and this may have skewed the results.

In a study by Toro (as cited in Pereira, 2003), reading achievement growth in second grade students using Accelerated Reader and independent reading was compared. The sample of 36 students was taken from an upper middle class area in a private Christian school. The experimental group consisted of a second grade class comprised of 20 students who would be exposed to the Accelerated Reader program. The control group consisted of another second grade class that contained 16 students and they would utilize the independent reading approach. The students in the control group would read for 30 minutes every night and keep a log in the classroom of the amount of independent reading that was done at home.

The researcher utilized a posttest design for both groups to take a standardized reading comprehension assessment. The duration of the study lasted six weeks and the results would be compared between the two groups.

The results showed the students exposed to Accelerated Reader had a mean score of 77.9 on the posttest and the independent reading group had a mean score of 75.4. The results showed no statistically significant difference in reading comprehension scores.
The reliability, validity and generalizability of the study were very low because of the lack of a pretest that would measure growth from pretest to posttest. The researcher had no baseline to show what reading comprehension level each student was on before the study began. The idea that second grade students would keep a journal of time read was unrealistic and thus comparing the effects of independent reading and Accelerated Reader would not be valid.

McMillan (as cited in Pereira, 2003) conducted a study on the effect of Accelerated Reader on the reading comprehension of fourth grade students. The sample population used was from three different elementary schools from the same school district in Texas. The schools were similar in population, administration, staff and curriculum. The experimental group consisted of 67 students while the control group contained 147 students. The duration of the study lasted one year and the results were not statistically significant.

The design of the study was a quasi-experimental, non-randomized, pretest-posttest control design. The criterion referenced Texas Assessment of Academic Skills (TAAS) was used as the tool for data collection. The TAAS cover the entire curriculum Texas students are required to know at the end of each school year. The pretest would be the reading comprehension scores from the TAAS that the students received at the end of their third grade year. The experimental group would receive Accelerated Reader throughout their fourth grade year, and the posttest would be the TAAS scores they received at the end of their fourth grade year.
The experimental group had a mean pretest score of 31.60 as compared to the control group's mean score of 31.13. The posttest score indicated that the experimental group received a mean score of 32.54 as compared to a mean score of 32.32 by the control group. The control group's growth in reading comprehension exceeded the experimental group by .25. The researcher concluded that the experimental group's TAAS reading comprehension score was not statistically significantly higher than the control group's reading comprehension scores.

The small sample size and the short duration allowed for less generalizability. Another weakness is the three schools that were utilized were similar to each other, but not identical. The difference in the number of students in the experimental group (67) and the control group (147) could have skewed the final results.

There was a disconnection between the TAAS assessment and the Accelerated Reader quizzes. The Accelerated Reader quizzes measures basic reading comprehension skills while the TAAS are meant to assess students on a basic comprehension level and critical thinking comprehension level. Accelerated Reader quizzes only allowed students to practice reading comprehension on a literal level and may not have been effective in reading comprehension growth on the TAAS.

The results demonstrated that the experimental group did obtain a larger growth in reading comprehension, but the results were not found to be statistically significant.

The Institute of Academic Excellence (as cited in Pereira, 2003) conducted a study aimed at determining the effect of Accelerated Reader on reading practice and growth in reading achievement. The design was a three-year retrospective study of
students ranging in grades one through nine from the state of Idaho. The researcher utilized the scores of 401 students that had received Accelerated Reader instruction for the three-year period. The researchers utilized Accelerated Reader points and STAR reports to make comparisons and compare student reading growth from one year to the next year. The results of the study were proven to be statistically significant, including an extreme outlier.

The results of the study include the following: (1) grades one through three had accelerated growth during the 1998-2001 timeframe; (2) fourth and fifth grade students showed no change; (3) from 1998-2001, all grades increased by an average of seven percentile points; (4) from 1999-2001, there was an average increase of seven points with a 22 point outlier from first grade; (5) every other grade not previously mentioned had no real change.

The institute claimed these results were statistically significant, but if the outlier of 22 percentile points from first grade were eliminated from the final results, it could then be determined that the growth in reading achievement was minimal at best. The study did not prove that Accelerated Reader improves reading comprehension because of the 22-point outlier.

The results of the studies discussed throughout this Dissent of Accelerated Reader section do not show a positive statistically significant impact on reading comprehension. Many of the reviewed studies had weaknesses with poor construction and implementation integrity. Without analyzing and critiquing the studies thoroughly, the results appear to support the claims that Accelerated Reader can improve reading comprehension. After
closer examination, these studies were inadequate in demonstrating the effectiveness of Accelerated Reader.
CHAPTER III

METHOD

Design of the Study

The purpose of this study was to examine the relationship between third grade students whose reading skills were influenced through an Accelerated Reader Program and third grade students whose reading skills were developed through the traditional lecture method without the influence of the Accelerated Reader Program.

This study reviewed various reading programs and the computer-based Accelerated Reader Program. The focus question for this study: Does the Accelerated Reader improve student performance in reading?

Participants

The participants of this study were third grade students from two bordering Eastern Kentucky school districts. Data will only be used from the students' second and third grade years of school. The two schools that were used for comparison are similar in total school enrollment as well as free and reduced lunch percentage. School 1 has a free and reduced lunch population of 64% and School 2 has a population of free and reduced lunch of 71%.

School 1 houses kindergarten through 6th grade with a total school population of 398 students and a total district population of 3,558 students. The student population consists of 99% white and 1% Asian ethnicity. The teacher: student ratio was 1:17. Regarding teacher qualifications, 81% of the staff has a Masters Degree or equivalent
with 15.1 average years of teaching experience. The county population of the school
district was 7,229 with a median household income $24,854. The percentage of the
population that has obtained a college degree was 18%.

School 2 houses kindergarten through fifth grade with a total school population of
328 students and a total district population of 2,321 students. The student population
consists of 99% white and 1% Hispanic ethnicity. The teacher: student ratio was 1:15.
Regarding teacher qualifications, 83% of the staff has a Masters Degree or equivalent
with 16.7 average years of teaching experience. The county population of the school
district was 5,243 with a median household income of $20,653. The percentage of the
population that has obtained a college degree was 12%.

School 1 has 53 subjects consisting of 23 females and 30 males. School 2 has 42
subjects consisting of 19 females and 23 males. Only test data for the students who were
assessed on the TerraNova Test after their second grade and third grade years of school
were collected and utilized.

Instrumentation

The instrument that was used to measure the data was the TerraNova Test by
CTB-McGraw Hill. The TerraNova Test was chosen because it was designed to assess
individual student learning in basic subject areas. The test results can be used to make
comparisons with school, district and national norm groups. Also, the TerraNova was
chosen because both schools assess their students at the second grade and the state
mandated third grade level.
The TerraNova is designed to assess individual student learning in the basic subjects and when used in conjunction with other information, it can be used to assess individual and group status and change over time as well as provide information about the effectiveness of educational programs. The test results can be used to make comparisons with school, district and national norm groups. The relatively current set of national norms was completed for the TerraNova in 1996. The publisher provides fall, winter and spring norms (Nitko, 1997).

**Design**

The design for this research project will measure performance over time. The design will include TerraNova Test data consisting of two years of test data for reading.

School 1 and 2 identifies each school. School 1 will be the Accelerated Reader School and 2 will be the non-Accelerated Reader school.

**Procedure**

Students that were selected in each school for comparison consisted of the percentage of free and reduced lunch, participation in the Accelerated Reading Program and if students were tested on the TerraNova during the second grade. The schools that were chosen were very similar according to the criteria listed above except for one school participated in Accelerated Reader and one school did not.

After selecting the schools, data from the TerraNova Test was collected and analyzed for each student’s second and third grade years of school. Test data from each student’s second grade year of school served as a pre-test while test data from the third grade year of school served as the post-test. The difference in the test category of reading
helped determine the effectiveness of the Accelerated Reader Program. The TerraNova Test data that was collected are from the 2001-02 and 2002-03 school years.

Limitations of the Study

This study has the following limitations:

1. This study was limited to data collected from two elementary schools.

2. The study was limited to data from only two academic years, 2002 and 2003.

3. The study was limited to data collected from the TerraNova Test.

Data Analysis

TerraNova Test scores from both academic years were listed in a Microsoft Excel document. Separate columns were created for each school and individual reading scores. The data from the Microsoft Excel document was then transferred to statistical computation software or SPSS.

The research question was answered by descriptive statistics, which include the means ($M$) and standard deviations ($SD$) for reading scores. An independent $t$-test was selected to test for statistically significant differences within the two data sets. “The purpose of a $t$-test is to statistically test for differences between two sets of data” (Johnson, 1989, p. 306). In this study, the two distinct groups of data were the reading scores from the Accelerated Reader school and the non-Accelerated Reader school.
The $t$-test will be the statistical model used to analyze data. The $t$-test for dependent samples will be used in order to analyze the differences between the two groups (school 1 and school 2).

Research Question 1: Do Accelerated Reader programs contribute to a significant increase in reading scores as compared on the TerraNova Test?

To answer the research question, TerraNova Test data were collected over a two-year period and analyzed to measure individual gains from each year of school.

The hypothesis that was tested to answer the research question that relates to individual increased gains.

$H_0$: Students who participated in Accelerated Reader Programs will not achieve higher increased gains than students who did not participate in Accelerated Reader.
CHAPTER IV
RESULTS

The results explained in this chapter are related to the research question and hypotheses previously stated.

Research Question: Do Accelerated Reader programs contribute to a significant increase in reading scores as compared on the TerraNova Test?

Table 1 presents the results of the independent $t$-test used to test the null hypothesis associated with the Research Question.

Table 1

Independent $t$-test Results for the Reading Section of the TerraNova Test

<table>
<thead>
<tr>
<th></th>
<th>School 1</th>
<th></th>
<th>School 2</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>$N$</td>
<td>$M$</td>
<td>$SD$</td>
<td>$N$</td>
<td>$M$</td>
</tr>
<tr>
<td>$t$</td>
<td>$df$</td>
<td>$p$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td>57.11</td>
<td>20.59</td>
<td>53</td>
<td>64.29</td>
</tr>
<tr>
<td>1.73</td>
<td>93</td>
<td>.09</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Using reading scores from the TerraNova Test, the mean score for school 1 ($M = 57.11, SD = 20.59$) was not statistically significantly different than the mean score for school 2 ($M = 64.29, SD = 19.45$), $t(93) = 1.73, p = .09$ (two tailed), (Table 1). Thus we failed to reject the null hypothesis and the answer to the research question is that there is not a statistically significant difference between school 1 and school 2 on the TerraNova Test.
For further interpretation, the researcher interviewed teachers from both schools asking the following questions:

1. What is your reaction to finding out that school 1 had no significant increase in reading scores while using Accelerated Reader?

2. What factors would contribute to having no significant increase in reading scores with or without using Accelerated Reader?

Overwhelmingly, most teachers at both schools were surprised at this finding. One teacher stated she was "shocked" at the result. Another teacher said she was "disappointed."

When asked about what factors could contribute to the finding of no significant increase in test scores, the following comments were noted: time on task, socio-economic, quality of instruction and how many instructional days did each school have before testing. Like me, most teachers interviewed thought any or all of the above mentioned factors could be determining factors in skewing the results.
CHAPTER V
DISCUSSION

The pressure to improve student performance according to NCLB and the expectation to reach proficiency by the year 2014 has forced instructional leaders to seek out and implement instructional strategies that will improve student performance. Since reading is a key component on both the NCLB and Kentucky Assessment, the Accelerated Reader Program has become a very popular choice for schools.

One might think that there would be a statistically significant difference between an Accelerated Reader School and a non-Accelerated Reader School, but no statistical difference was found. The Accelerated Reader School ($M = 57.11, SD = 20.59$) was not statistically different than the mean score for the non-Accelerated School ($M = 64.29, SD = 19.45$), $t(93) = 1.73, p = .09$ (two tailed). In this particular study, student performance decreased overall from the pre-test to the post-test for each school.

As noted by Pavonetti, Brimmer and Cipielewski (2002) who investigated the reading habits of middle school students who used the Accelerated Reader Program during their elementary school years, found no significant difference between students who had Accelerated Reader and the non-Accelerated Reader students when they took the Title Recognition Test. In fact, the results indicated that students who did not participate in the Accelerated Reader Program in elementary school read more than the Accelerated Reader students.
The researcher was surprised by the finding of no statistical difference and even more so that the post-test revealed a decline in performance from both schools. It is hard to imagine schools in different districts, using separate means of instruction, having a decline in student performance from the pre-test to the post-test exam. This researcher suggests that quality of instruction might be a significant factor. When teachers are differentiating instruction and meeting the needs of the learners, student performance should increase and overall student achievement should improve.

Zemelman, Daniels and Hyde (1998) described qualities of best practices in teaching reading. Their findings include the following: (1) reading means getting meaning from print; (2) reading is a process; (3) hearing books read aloud is the beginning of learning to read; (4) beginning reading instruction should provide children with many opportunities to interact with print; (5) reading is the best practice for learning to read; (6) an effective reading program exposes students to a wide and rich array of print and goes beyond the use of a basal; (7) choice is an integral part of literate behavior; (8) teachers should model reading; (9) effective teachers of reading help children actively use reading and writing as tools for learning; (10) children learn reading best in a low risk environment; (11) young children should have well structured instruction in phonics; (12) teachers should provide daily opportunities for children to share and discuss what they have been reading and writing; (13) writing experiences are provided at all grade levels; (14) reading assessment should match
classroom practice; (15) schools that are effective in teaching reading have an ethos that supports reading. (p. 30-35)

The above mentioned reading strategies are recommended best practices for reading instruction. The premise of each of these strategies is as follows: (1) reading means getting meaning from print emphasizes the importance of comprehension in demonstrating student understanding of reading material: (2) reading is a process that includes high level thinking in order to develop the skills necessary to anticipate and infer information before, during and after it is read: (3) it is important to encourage children to listen to books being read aloud because hearing books read aloud is the beginning of learning to read; (4) beginning reading instruction should provide children with many opportunities to interact with print which includes listening to stories, making books, composing stories and enacting dialogue. Teachers should build upon and extend the knowledge of children in the development of reading experiences; (5) reading is the best practice for learning to read. Therefore, it is important to arrange opportunities for independent reading; (6) an effective reading program exposes students to a wide and rich array of print and goes beyond the use of the basal because unlimited access to books of all kinds is an indicator of a successful reading program; (7) choice is an integral part of literate behavior and promotes creative ways to demonstrate reading skills and understanding; (8) teachers should model reading in order for children to internalize the mental processes required to read skillfully; (9) teachers should help children actively use reading and writing as tools for learning by providing opportunities for meaningful reading and writing
during content-area instruction; (10) children learn reading best in a low risk environment that promotes the use of inference, prediction and risk taking in confirming or disconfirming their hypotheses as well as the utilization of metacognition to interpret materials that are read; (11) young children should have well structured instruction in phonics that includes phonemic awareness, beginning reading activities and flexible grouping; (12) teachers should provide daily opportunities for children to share and discuss what they have been reading and writing by arranging opportunities and activities that invite students to demonstrate prior knowledge and newly acquired reading skills; (13) writing experiences are provided at all grade levels to encourage the use of new genres, topics, and forms for writing; (14) anecdotal records are recommended as the best type of reading assessment to match classroom practice; (15) it is important to have high expectations for student learning because schools that are effective in teaching reading have an ethos that supports reading.

According to Zemelman, Daniels and Hyde (1998), the following commonly used practices should be avoided or decreased: (1) Exclusive emphasis on whole-class or reading-group activities; (2) teacher selection of all reading materials for individual groups; (3) relying on selections in basal reader; (4) teacher keeping his/her own reading tastes and habits private; (5) primary instructional emphasis on reading subskills such as phonics, word analysis, syllabication; (6) teaching reading as a single, one-step act; (7) solitary seatwork; (8) grouping by reading level; (9) round-robin oral reading; (10) teaching isolated skills in phonics workbooks or drills;
(11) little or no chance to write; (12) punishing preconventional spelling in students' early writings; (13) segregation of reading to reading time; (14) evaluation focus on individual, low-level subskills; (15) measuring success of the reading program only by test scores. (p. 54)

The qualities of best practice in teaching reading have been discussed and offer strategies that are beneficial in implementing successful reading programs and those that should be decreased or avoided. It is evident that children learn best through immersion and experimentation rather than through direct instruction or correction. It is recommended that instruction be student-centered by encouraging self-selection of books in a setting that provides opportunities for practicing metacognition. Time must be balanced between teacher-directed instruction and student-centered activities in order to allow both teachers and students to develop.

Allen (2000) suggests that reading success is related to the opportunities provided to immerse students in oral and written language. There are varied sources of language that are useful when immersing students in language. These print materials include: newspapers, novels, magazines, books on tape, poetry, picture books, art and music and interactive computer software. Teachers have found that when using these sources for classroom instruction students begin to vary their own reading selections.

Classroom structures for best practice includes classroom activities that are common among teachers whose philosophy of learning is child-centered, experiential, expressive, reflective, holistic along with being collaborative, democratic,
developmental and challenging. These classroom structures include integrative units, small-group activities, representing-to-learn, classroom workshop, authentic experiences and reflective assessment. Many of these structures require training of students but provide for the development of learning and social skills. These activities require for less direct instruction by the teacher and places them in a more indirect role as moderator or facilitator (Zemelman, Daniels and Hyde, 1998).

**Recommendations Based on this Study**

1. A similar study involving a larger population of Accelerated Reader Schools and non-Accelerated Schools is necessary in order to have a larger sample of data to analyze and compare.

2. A similar study analyzing the effects of gender and socioeconomic status on student performance might reveal more information regarding a decrease in student performance.

3. A future study that separates regular education students and special education students to find out if there is a difference in how the participants respond to the Accelerated Reader Program.
REFERENCES


Cunningham, P.M., & Hall, D.P. (2002). Data supporting the four blocks framework. *In Press*.

Social Studies, 3, 9-11.


Pereira, R. (2003). Yes, no, maybe so; does accelerated reader improve reading comprehension? The College of William and Mary School of Education.

Reading Renaissance (2002). How scientific research supports the school renaissance school improvement process. Renaissance Learning, Inc.


