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The Impact Of Accelerated Reader (Ar) Program On Students' Mct Reading Scores

Kenyartic LeWon Brown

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THE IMPACT OF ACCELERATED READER (AR) PROGRAM ON STUDENTS'
MCT READING SCORES

By

Kenyartic LeWon Brown

A Dissertation
Submitted to the Faculty of
Mississippi State University
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy
in Elementary, Middle, and Secondary Education Administration
in the Department of Leadership and Foundations

Mississippi State, Mississippi

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THE IMPACT OF ACCELERATED READER (AR) PROGRAM ON STUDENTS'
MCT READING SCORES

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This study was needed to determine if the Accelerated Reader (AR) program made a positive impact in schools, which were attempting to increase student achievement in reading. The purpose of this study was to determine if students who received reading instruction supplemented with the AR Program achieved higher reading scores as measured by the Mississippi Curriculum Test (MCT) than students who were instructed using only traditional basal reader textbooks.

6 school districts were selected to participate in this study. There were 1,111 3rd — 5th grade students in the 6 districts between the years 2004 and 2007. Of those 1,111 students, 248 students met the criteria to be included in this study. Therefore, 248 students' reading scores were analyzed for this study.

The findings of the study revealed that AR had a positive impact on students' MCT reading scores. There were no significant differences, however, between the reading scores in the three years 2004, 2005, and 2006 of AR students (male or female)

and the reading scores of the Non-AR (NAR) students (male or female). There were no significant differences between the reading scores in the three years 2005, 2006, and 2007 of the AR students and the reading scores of the NAR students (male or female).

This study was needed to determine if the AR program was beneficial to schools, which were attempting to increase student achievement in reading. The findings of this study may be used to help administrators and schools evaluate the usefulness and money spent on AR. While no significant differences were shown, the results did show that the AR students' scores were higher than the NAR students on the MCT reading.

DEDICATION

I dedicate this dissertation to my wife, Shelia, my sons, Kwame L, Korben L and Keldon L, my father, Mr. Edgar Brown, my mother, Mrs. Katherine Brown and my brother, Dr. Nehru K. Brown. Their unselfish love, support and guidance served as guiding lights that beamed a path for me to complete my dream of becoming Dr. Kenyartic LeWon Brown.

I must acknowledge and give a special thank you and dedication to the Lord Almighty who gave me the strength and the courage to endure throughout my studies toward completion of this degree. Thank you for providing me with the perseverance needed to fulfill my goal. To God be the Glory for all that he has done for my family and me.

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“The Lord is my strength and song, and is become my salvation” Psalms 118:14.
First and foremost, I give honor to God for His continuous blessings.

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CHAPTER I

INTRODUCTION

Since the early 1990s, Accelerated Reader (AR), the reading management software program, has been implemented in nearly 60,000 schools (Renaissance Learning, 2002). AR was created by Judith and Terrance Paul (Renaissance Learning, 2002), and it was constructed to help teachers motivate students to read more literature and to enable teachers to effectively manage each student's progress. Vollands, Topping and Evans (1999) stated that the AR program was designed to impact both students and teachers. AR allows students to select books to read that have been identified by the AR program. A book is labeled as AR if there is a multiple-choice quiz available on the computer program. In addition, books were leveled accordingly by ability to provide a greater opportunity for students to experience a successful reading experience. Generally, the books and quizzes available for children are chosen by teachers or librarians from an AR catalog. Quizzes could be purchased from Renaissance Learning software in bulk or individually. Students read a book they have selected, take a multiple-choice quiz, and received an immediate score on the computer. Also, students can receive reports to take home for their parents with results from each test (Renaissance Learning, 2002). The reports offer information such as the score from the current test, a score that represents a nine-week average, and a year-to-date score. This encourages students to become motivated readers as they began to read lengthier and more difficult books. Teachers

receive immediate feedback with detailed information about the reader's performance. The teacher is then able to compare this performance to the student's functioning reading level to make certain that the student is reading within his/her own zone of proximal development (ZPD) as defined by Renaissance Learning (2002).

Renaissance Learning website (2005) overview introduction section states that AR has several objectives to help students obtain a lifelong love of reading and learning, and those objectives include:

- Obtain reliable, objective information
- Help every student master standards
- Improve classroom management
- Keep each student challenged

These objectives may entice many schools to investigate the implementation of Renaissance Learning's AR software.

While many scholars and educators have offered supportive arguments for AR, some have also offered negative opinions of the AR program. Pavonetti, Brimmer, and Cipielewski (2002) voiced concern with the long-term effects of reading habits on students that have experienced AR. Biggers (2001) criticized AR because she believes the program erodes balanced literacy programs. Brisco (2003), a one-time proponent of AR, has altered her opinion of the program after she began to question AR's motives. Additionally, some articles and studies questioned the whole idea of motivation and have been used to devalue the AR program (Gambrell, Palmer, Codling, & Mazzoni, 1996; Guthrie & Davis, 2004). To respond to Topping's (1999) article posted on Reading

Online, Labbo (1999) concluded a different perspective of AR by questioning “if the AR program, and the time devoted to using the program in the classroom, is the best possible literacy-related use of a school’s large investment in computers” (p. 5). Krashen (2002) challenged readers to consider two components of AR: tests and rewards. He also indicated that there was a lack of experimental evidence to support AR’s usage in the classroom (Krashen, 2002).

When the subject of AR was mentioned, educators vary in their perceptions of the program. AR has been a topic of discussion, and it has continued to be debated in schools, universities, and in professional journals, both nationally and locally. This study provided insight that would help schools to determine the impact of the AR program.

Statement of the Problem

Literature does not show conclusively that AR is effective. Literature is not definitive as to whether or not AR will raise students’ Mississippi Curriculum Test (MCT) reading scores. The problem for this study was to examine if students, in the Mississippi Delta, who received reading instruction supplemented with the AR program achieved higher average reading scores as measured by the MCT than students who were instructed using only traditional basal reader textbooks.

Research Questions

The following research questions guided this study.

1. Did students who were instructed using basal readers supplemented with the AR program achieve higher reading scores on the MCT than students who were instructed solely using traditional basal reader methods?
2. Did male students who were instructed with basal readers supplemented with the AR program achieve higher reading scores than male students who are instructed solely with the traditional basal readers?
3. Did female students who were instructed with basal readers supplemented with the AR program achieve higher reading scores than female students who were instructed solely with traditionally basal readers?

Significance of the Study

This study was needed to determine if the AR program made a positive impact in schools, which were attempting to increase student achievement in reading. This information could be valuable in helping Mississippi Delta schools evaluate and determine if the AR program might be used as a requirements asset towards meeting the goals of the state's accountability system in reading. These results may assist schools with assessing the time, money and effort invested on the AR program. Data from Mississippi schools could provide beneficial feedback to the AR developers.

Mississippi developed a new student assessment program and a new school level accountability system based on achievement and growth (Mississippi Department of Education [MDE], 2005). During the years of data collection for this study, the achievement and growth models use data from the MCT and Subject Area Testing Program to calculate a basic achievement index (BAI), a higher achievement index

(HAI), and a growth composite for each school. The official results from the accountability system – an achievement index, a growth status (not met, met, exceeded), and a school performance classification (1-5 with an appropriate label) – are reported to districts and to the public each year. Since reading is one of the three indicators used in assigning school accountability, an increase in reading achievement may possibly affect a school's overall accreditation level. The level 1-5 classifications from the MDE are shown below:

1. Level 5 – Superior-Performing
2. Level 4 – Exemplary
3. Level 3 – Successful
4. Level 2 – Under-Performing
5. Level 1 – Low Performing

Each school is responsible for ensuring its students are equipped with the necessary skills for mastery on the MCT, a criterion-referenced test, which results from the day-to-day activities in the school.

Delimitations and Limitations of the Study

1. Only data devised from students reading performance from 2004-2007 were used for this study.
2. This study included students' scores from 3rd, 4th, and 5th grades.
3. The study is limited to the validity and reliability of the instrument.
4. It is not known if students' achievement levels were equal at the beginning of the study.

Definitions

For the purpose of this study, the following terms have been defined:

- Accelerated Reader (AR) - a computerized reading management system that claims to help improve student's reading skills. After students read a book, they take a test and receive timely feedback (Renaissance Learning, 1999).
- AR Coordinator - a building representative who oversees much of the AR program (Renaissance Learning, 1999).
- AR Time - a specific time in the day set aside for AR reading and quizzing (Renaissance Learning, 1999).
- Leveled Books - books that are labeled according to a grade leveling method designed by Renaissance Learning (Renaissance Learning, 1999).
- Mississippi Curriculum Test (MCT) – criterion-referenced test that is aligned with the Mississippi Curriculum Frameworks 2000 and national standards, designed to measure what Mississippi students are learning in Mississippi classrooms (MDE, 2008). During the time of data collection for this study, the MCT was used.
- Non-AR books - books that do not have AR tests at the school(s) in this study (Renaissance Learning, 1999).
- Proficiency level
 - Advanced proficiency level - students at the advanced level perform in a manner clearly beyond that required to be successful at the next grade (MDE, 2008);

- Proficient proficiency level – students at the proficient level demonstrate solid academic performance and mastery of the content area knowledge and skills required for success at the next grade (MDE, 2008);
 - Basic proficiency level – students at the basic level demonstrate partial mastery of the content area knowledge and skills required for success at the next grade (MDE, 2008);
 - Minimal proficiency level – students at the minimal level are below basic and do not demonstrate mastery of the content area knowledge and skills required for success at the next grade (MDE, 2008).
- Quizzes - an electronic set of multiple choice questions to assess readers' comprehension (Renaissance Learning, 1999).
- Standardized Test for the Assessment of Reading (STAR) - provides information to teachers about student growth and achievement in grades 1-12. Students take the assessment and it is scored automatically (Renaissance Learning, 1999).
- Status of the Class - a time at the beginning of the class for students to share what they are reading and their goals for the day (Renaissance Learning, 1999).
- Sustained Silent Reading (SSR) - a period of uninterrupted silent reading (Renaissance Learning, 1999).

- Reading Renaissance - a combination of AR, reading practice and sound teaching strategies (Renaissance Learning, 1999).
- Zone of Proximal Development (ZPD) - zone between reading that is too easy and reading that is too difficult for an individual (Renaissance Learning, 1999).

CHAPTER II

REVIEW OF RELATED LITERATURE AND RESEARCH

The researcher used this chapter to include a review of literature that pertains to the use of a reading plan for upper elementary (3rd—5th grade) students. The chapter was divided into the following sections: The literature review was based on (a) Mississippi Delta Region, (b) Reading fluency and comprehension, (c) Independent reading instruction, (d) Traditional reading, (E) Accelerated reader and (F) Reader-Response—Rosenblatt and Langer.

Mississippi Delta Region

The Mississippi Delta Region continues to be primarily known for its role with agriculture and poverty. Lord and Cooper (1990) referenced the Mississippi Delta as the poorest section of the poorest state, so poor that it is often referred to as America's Third World. The Delta is defined by the social, economic, and political forces that shape its people and culture (Whayne, 1999). One of two popular images is likely to come to mind when pondering its history, especially that of the lower Delta. One popular view conjures up notions of a vast expanse of cotton fields and black slaves in the antebellum era that evoke Scarlet O'Hara's Tara, replete with aristocratic masters and masters and indulgent mistresses (Whayne, 1999). Another view might focus on the contemporary Delta and

ponder the endemic poverty of the region and the great disparity of wealth existing there today (Whayne, 1999). While agriculture and poverty come to mind first when the Mississippi Delta is mentioned, there must be a focus on educating the community, and that focus begins with effective reading.

Reading Fluency and Comprehension

The teaching of reading has come to be regarded as one of the highest priority areas in modern education because our schools are failing to teach reading effectively to large numbers of students who progress to secondary school without having achieved a working competency in this basic skill (Shuman, 2006). Also, Shuman wrote, as one teenager so directly and succinctly said, “If you can’t read, you’re dead!” (p. 35). Duke (2000) suggested that to promote successful literacy development and continued academic achievement, students must experience large amounts of print representing a variety of genres and print types and a sense of student agency, which includes self-determination and choice. Gates and Robinson (2002) wrote that there is precisely one goal with two aspects when teaching reading, and those two aspects are to teach children to read well and to love to read. While content is important, Gates and Robinson stated the reading teacher should never become so engrossed with mechanics or so intent on skill that he/she loses sight of this dual objective. The teacher in any subject field can make a good beginning in teaching reading by doing the following (Shuman, 2006):

- Construct and administer brief comprehension tests.
- Give oral comprehension tests to those who perform poorly on the written ones.

- Construct and administer a minimum of four cloze tests based on the reading material used in class.
- Compile a list of the 20-25 most commonly used connectives in the specific subject area and make sure your students know the meaning of each connective on the list.
- Prepare students for each assignment by telling them precisely what is expected of them.
- Anticipate words in an assignment that might be confusing or misleading.
- If students are disabled readers, script necessary material for them and put it on cassettes.
- Display written work which students have done and encourage other students to read it.
- Share enthusiasm for the subject field with students.
- Encourage students to explore independently in your subject field and give them help in doing so.

To be able to read well, the child must, from the beginning, read naturally and freely. Gates and Robinson (2002) wrote that a child may be average or superior in phonetic analysis or even able to determine more printed words than the average pupil in the class, and still be unable to really read well. To achieve growth in student reading skills and ensure later school success, teachers must provide all students with appropriately challenging instructional materials (Anderson, Hiebert, Scott, & Wilkinson, 1985) Reading well is something very different from being able merely to

recognize printed phonograms and words or even to pronounce the series of words in a sentence (Gates & Robinson, 2002). Natural reading requires a properly balanced and unified array of techniques.

Children must acquire sound techniques to read well, and the ability to read well is essential to learning to love to read. But, to read well and to love it requires that the reading program provide an abundance of opportunity to read naturally and successfully (Gates & Robinson, 2002).

Establishing a true love of reading may require more than is required for a basal reader. Struggling readers often experience significant improvements in comprehension when taught reading strategies (Shearer, Ruddell, & Vogt, 2001). Over and above this, there should be available to students a library table or corner which abounds in interesting and lively stories and informational reading material on the level at which he is able to read well, and the day's schedule should provide time for him to enjoy these materials—to read freely and naturally with the same freedom from difficulty and the same smoothness which characterize an adult's personal reading (Gates & Robinson, 2002). In many elementary reading classes in U.S. schools, teachers have long planned to meet the needs of a diverse group of readers, from students with learning disabilities to those who read above grade level (Durkin, 1990). Teachers should give children interesting material of suitable difficulty, provide them with simple but sound guidance, and give them ample opportunity to read by themselves, and to learn to read better in the course of reading (Gates & Robinson, 2002).

Many teachers have learned that instruction in reading comprehension strategies has been shown to improve reading comprehension. Although teaching students to read remains a major goal of education, many students have extreme difficulty learning even basic reading skills (Therrien, 2004). Providing effective reading instruction not only improves reading, but also changes the brain so that neural systems for reading are comparable to those of good readers.

Teachers teach comprehension strategies because that is what students need to expand their learning. Research documents that skillful readers are strategic readers; reflections on our own reading processes confirm this finding (Villuame, 2002). In recent years, there has been an emphasis by reading teachers and researchers on developing fluent word reading in struggling readers to improve their comprehension (Fuchs, Fuchs, Hosp, & Jenkins, 2001). Readers have the right and the responsibility as readers to ask their own questions, to make their own connections, to visualize their own images and formulate their own predictions. Villuame (2002) added existing knowledge and strategies go untapped if readers do not have the motivation to fuel the activation. To explore issues regarding effective comprehension instruction, we begin with the notion that instruction needs to have the potential for changing resistant readers and disenfranchised readers into active readers (Villuame, 2002). While teachers may select various books for students to read in tutoring sessions, the text difficulty level should match the student's oral reading ability and listening vocabulary (Parker, Hasbrouck, & Denton, 2002).

The use of comprehension strategies helps students maintain interest and concentration. The comprehension tutoring approach trains the student to read for a purpose (Parker et al., 2002). When using this approach, a student will be asked to read a passage and ask ‘thinking’ types of questions that cannot be answered by common knowledge alone. After reading the selection, the tutor should ask the student to repeat the request just given by the tutor and try to answer based on the text just read (Parker et al., 2002). The tutor would listen to the responses and provide supportive feedback, which allows the reader to become more fluent.

Reading fluency is an important component of reading and/or reading comprehension. Fluency is also closely related to reading comprehension (Fuchs et al., 2000). Reading fluency has taken a front seat in discussions about student reading success and effective instruction in reading. Successful reading requires readers to process the text (the surface level of reading) and comprehend the text (the deeper meaning). Reading fluency refers to the reader’s ability to develop control over surface-level text processing so that he or she can focus on understanding the deeper levels of meaning embedded in the text (Rasinski, 2004). Fluency usually has been associated with oral reading. One fluency strategy that has an extensive research base is repeated reading, a supplemental reading program that consists of re-reading a short and meaningful passage until a satisfactory level of fluency is reached (Therrien, 2004). Reading fluency is actually composed or broken down into three areas (Rasinski, 2004):

- Accuracy in word decoding refers to the reader’s ability to sound out words in a text with minimal errors.

- Automatic processing refers to reader's ability to expend as little mental effort as possible in the decoding aspect of reading so that they can use their definite resources for meaning making.
- Prosodic reading refers to the reader's ability to parse the text into syntactically and semantically appropriate units.

Reading fluency contributes to thorough comprehension and enjoyment to the reader. Fluency is integral to comprehension and is a critical component of successful reading, but even reading researchers do not agree on a single definition (Strecker, Roser, & Martinez, 1998). Fluency is composed of phrasing, smoothness, and expressiveness. When discussing fluency, it is important to understand that a third grade student who is progressing normally in decoding should be able to read a 100-word text, which is written at appropriated grade level, with no more than 10 uncorrected decoding errors. One way to assess prosodic reading is to listen to a student reading a grade-level passage and judge the quality of the reading using a rubric that scores the student on the components of expression, volume, phrasing, smoothness, and place (Strecker et al., 1998). In addition, students should understand that the goal of reading is constructing meaning and that fluency assists in developing understanding.

Fluent readers should have a vocabulary of high-frequency words, graphonic skills, and strategies for accurately decoding new words. Calling words fast doesn't equate to reader fluency. It is possible to read with accuracy, speed, and appropriate phrasing but without fluency and understanding (Aaron, 1989; Worthy & Invernizzi, 1996). Developing fluency in reading requires practice, which relates to the method of

repeated readings. Research (Pinnell, 1995) suggested that reading fluency is a crucial factor among fourth-grade students, but it can also be an important issue beyond the elementary grades.

Classrooms that foster fluent reading consist of interesting materials that cover every topic imaginable and such classes present themselves as purposeful to the students. In addition, the atmosphere is positive and engaging. On the other hand, classes that do not foster fluency appear as less-inviting environments to the students. Such environments cause some students to avoid reading because of the fear of failure and negative attitudes.

To determine proficiency in decoding connected text, calculate the percentage of words a reader can accurately decode on grade level material (Rasinski, 2004). Teachers can normally assess automatically in decoding by looking at the student's reading rate. The best way to assess prosodic reading is to listen to a student read a grade-level passage and to then judge the quality of the reading using a rubric that scores a student on the elements of expression and volume, phrasing, smoothness and pace (Rasinski, 2004).

Research indicates that repeated readings lead not only to improvement in reading the passage but also to improvement in decoding, reading rate, prosodic reading, and comprehension of passages that the reader has not previously seen (National Institute of Child Health and Human Development [NICHD], 2000). Passages meant to be read aloud as a performance—poetry, for example, or scripts, speeches, monologues, dialogues, jokes, and riddles—are perfect texts for developing fluency (Rasinski, 2004). Coaching provides another opportunity for developing these skills by making students aware of

their own interpretation of the text and moving readers toward deeper levels of interpretation and meaning.

Asselin (2000) indicated that while researchers do not recommend one system over another system, they believe the following criteria should be used to promote independent reading:

- Children should be able to relate to text content (fiction or nonfiction).
- Text should utilize children's natural knowledge of syntax and semantics.
- 70-80% of the text should be decodable.
- Should be more than two words per text exemplifying a particular graphophonic pattern.
- Should be a low ration of unique words to total number of words.
- Students should read texts at 98% fluency for practice to be helpful in developing independent ability.

Independent Reading

While reading fluency may attribute to independent reading, a relationship seems to exist between reading fluency and time engaged in independent reading (Cunningham & Stanovich, 1998). One classroom practice that promotes independent reading is called sustained, free-choice reading (Manning & Manning, 1984). Independent reading encourages students to read books that interest them. Texts that are significantly above children independent reading level may be used for teacher read-alouds while texts just above those independent reading levels may be used for guided reading lessons. Furthermore, students tend to become comfortable with reading because they are allowed

to select books at their appropriate level. It is extremely important for students to experience success, so that the interest levels remain. For the greatest benefits of fluency and independent reading development, students should read interesting and manageable texts every day, ideally at their independent or easy reading level (Worthy & Broaddus, 2002). Providing books on diverse topics at varied reading levels offers many of the same benefits as series reading, and it also prepares students for reading content textbooks. The more a student reads, the more likely he or she will be a proficient reader. It is plausible- indeed, common sense- to believe that students who read extensively will develop the fluency, word recognition, vocabulary, comprehension skills, and confidence needed for proficient reading in high school and college (Newkirk, 2008).

In addition, it is vital for teachers and/or librarians to provide students with quality literature. Asselin (2000) indicated students need:

- Frequent practice
- Practice in easy and supportive texts
- Supportive feedback, which reinforces student's growth in independence as they read more frequently
- Performance opportunities
- Assessments

It is important to build in the above strategies when implementing independent reading. When involving students in independent reading activities, they should be assisted with book selection and specific strategies to model during individual assessments. Asselin (2000) also noted that when attempting to match students with appropriate books, it is

important to know the student's reading development. More proficient readers may spend an entire independent reading period alone with a book, while novice readers often prefer reading with a partner, working at a read-along/listening center, using sentence strips, or rereading books from shared or guided reading. Students should understand that the purpose of independent reading is to practice reading strategies. Some reading strategies that may be used include (Taberski, 1998):

- Using what is known to figure out what you don't know
- Predicting the outcome
- Rerunning the sentence
- Thinking of a word that makes sense
- Using letters and their sounds
- Creating a story map
- Splitting the word into parts
- Selecting a book that's part of a series
- Searching for familiar spelling patterns

Independent reading is more than an add-on activity because it should be an integral part of your language arts program, and it should be centered on your beliefs. Furthermore, with the variety of reading levels and interests among students in a classroom, it is a daunting challenge to identify appropriate instructional material (Taberski, 1998).

Vygotsky (1962) theorized that studying challenging material with assistance enabled students to internalize more complex material. In other words, students must experience a

supportive program to learn. Independent reading provides context clues that students need to become better at reading and comprehending (Taberski, 1998).

Traditional Reading

Schools in general, and reading instruction in particular, have been a battleground of innovative ideas versus tradition (Hillerich, 1991). Much of the burden of reading instruction has fallen upon English teachers, many of whom are no better equipped to teach reading - particularly at the remedial level - than teachers of chemistry, home economics, or physical education (Shuman, 2006). Few teachers in the content areas have been trained in the teaching of reading, and most subject matter teachers are so conscious of the necessity to cover the subject matter in the time allotted that they do not see any practical means of doing that and working with disabled readers as well (Shuman, 2006). Over the past few decades, many teachers used basal readers, and they viewed them as the total reading program. Educators have recognized that much of the skill instruction was superfluous, if not counterproductive (Hillerich, 1991). Furthermore, all the time spent in these activities (syllable division or vowel rules) may have removed the possibility of ever really reading. Basal readers have been criticized for controlled vocabulary, emphasis on isolated skills, and stories that lack conflict or authentic situations (Koskinen & McCarthey, 1995). Hillerich (1991) wrote that learners need some skill instruction, but they also need experience in real reading.

A very serious concern for any teacher should be the placement of children in their reading material (Hillerich, 1991). In many cases, elementary school children are placed in reading material that is too difficult for them. If a child fails to recognize five

words of every hundred, that text is too difficult for instructional purposes, much less for causal independent reading. The major goal of reading instruction ought to be the development of independence in comprehending any selection through skill in use of the appropriate strategies (Hillerich, 1991). Children need to learn how to locate, organize, evaluate and retain information. They should not be led to believe that the purpose is merely to accumulate and regurgitate statements from a text (Hillerich, 1991).

Rosewell (1973) called upon all teachers to assume the responsibility for evaluating reading competency, diagnosing reading difficulties, prescribing study techniques to alleviate problems and ineffective procedures, and promoting enriched reading opportunities. Shuman (2006) wrote school classrooms should be filled with books and other reading materials. Student reports should be posted where class members can read them. Ideally, every classroom should have a quiet area, a special space separated from the rest of the room with bookcase dividers. The bookcase dividers should be full of books; possibly some of them discarded books by parents or other teachers (Shuman, 2006). Students should gravitate to this area when they have done their other work (Shuman, 2006).

Accelerated Reading

Biggers (2001) indicated nearly 10 years ago that teachers and schools rushed to adopt a computer-based literacy program in an effort to integrate technology. AR, originally pushed by Advantage Learning Systems (now the School Renaissance Institute), is not the only computerized reading tool on the market; however, it has been the most widely advertised and used software available.

Promotional materials claim that AR is “The World’s Most Popular PreK-12 Reading Software” (School Renaissance Institute, 2001, p.12). The program begins with the Standardized Test for Assessment of Reading (STAR), which the company describes as a computer-adaptive, norm-referenced reading test in which students choose the best word to complete sentences (School Renaissance Institute, 2001). The software then automatically delivers the next question, producing a diagnostic report of the student’s reading abilities upon completion of the test, and suggesting courses of improvement (School Renaissance Institute, 2001). Test results, which are confidential, can be accessed by teachers and other authorized personnel (School Renaissance Institute, 2001). Taylor (as cited in Biggers, 2001) wrote the STAR was a high-tech cloze procedure that did not incorporate reading comprehension or any teacher observations of reading behaviors. However, claims have been made that STAR can be used to accurately identify student strengths and weaknesses and the necessary courses of action for reading comprehension improvement (Biggers, 2001).

AR was first made available to schools in 1986. One significant characteristic of AR is the use of incentives and rewards. Ultimately, some studies argue that motivation, both intrinsic and extrinsic, is the key for long-term effect. The whole idea of motivation is important to examine because of its influence on students’ reading. AR consists of four components:

- Providing interesting books
- Allotting time to read (one hour per day)

- Administering quizzes on the content of the books (with an emphasis on facts)
- Rewarding for points earned on the quizzes

There is strong evidence that the first two components are effective: children who have access to interesting reading material and a time and place to read will read more and make more progress in literacy development (Krashen, 2005).

AR determines readability levels of trade books with an automated Flesch-Kincaid reading index, and schools are required to buy CD-ROMs that include assessments of those titles to be made available to students. This is common among these types of computerized programs, although the readability index may vary by company (Biggers, 2001). Nevertheless, AR, like its counterparts, restricts students to demonstrating their comprehension solely by completing a computer-generated multiple-choice test.

As with similar computerized reading tools, AR's focus on external motivation and control is strengthened by the reward and competitive point systems built into the program that includes pizza lunches, skating parties, stores for students to shop for rewards, recognition buttons, public announcements of rewards, and various behavior-related privileges (Biggers, 2001). Biggers added that some believe this type of program creates a Skinnerian system of literacy learning that poses the threat of extinction once the rewards are withdrawn. Baker and Wigfield (1999) wrote students who are motivated by competitions also show a high degree of reading avoidance, particularly for more difficult reading tasks or reading outside of school requirements. Cameron and Pierce

(1994) write extrinsic motivators, particularly tangible rewards such as those suggested by AR, also reduce internal motivation to read. Studies have shown that students become dependent on the rewards for their motivation, need more prodding to read, and read less frequently when the reward is discontinued.

Although extrinsic motivators cannot be completely avoided in schools because grades must be assigned to work, the non-tangible incentives of teacher praise and constructive feedback have proven more motivational than the tangible rewards (Cameron & Pierce, 1994; Deci, 1971; Lepper & Cordova, 1992). Nevertheless, AR's literature (Advantage Learning Systems, 1993) advised against praising students for effort when their achievement is not significant, thus supporting the ego goal over the mastery goal for the very students who could benefit the most from teacher feedback regarding their efforts.

Perhaps the most problematic aspect of AR and other programs like it is that they are presented as a way to differentiate instruction for students. However, AR is not an instructional program—there is no literacy instruction to differentiate in AR. According to Biggers (2001), the teacher's role is to:

- Take status of the class daily
- Provide important guidance for book selection
- Motivate and assure each student is reading an appropriate book within his/her individual zone of proximal development

There is absolutely no mention of the teacher's role in providing direct instruction in reading strategies as would be done in traditional or balanced reading programs (Biggers, 2001).

As documented in a pamphlet published by Renaissance Learning (2004), there were 113 scientific research studies that supported Accelerated Reader. Of these, 21 were experimental and quasi-experimental, 67 were correlation and case studies, 15 were product foundation papers, and 10 were reliability and validity assessment research. In accordance with Renaissance Learning, 84 of the studies were considered independent and 29 were internal research. While the indicated research may support the effectiveness of the program, some experts in the field of literacy and children's literature are skeptical about the effectiveness of AR. One criticism is that fewer than 10 of the 113 studies have been published in referred journals while others question some of AR's long-term effects as well as its motivational factors. An area that is missing from both sides of these studies is the voice of those stakeholders that are involved with AR daily.

With AR, a student reads a book or is read one (Green, 2000). The student then logs on to an individual account, selects the appropriate title, and answers 10 multiple-choice content questions before the test is scored. A failing grade prompts the student to read the book again and take a retest. A passing grade adds points to an account that can later be traded in for reading incentives (Green, 2000). Educators are provided information about each student from a printout that details the book read, its reading level, percentage of correct answers, and points assigned. Cumulative reports list all books read and calculates an average reading level for the student. Gambrell et al. (1996)

noted that teachers may have long recognized that motivation is at the heart of many of the pervasive problems they face in teaching young people to read. Educators can generate progress reports for parents to show the reading strengths and weaknesses of each child, indicate which areas need more help, and track each child's progress (Green, 2000).

AR systematically collects information on student reading practice through short, computer-based quizzes that assess reading comprehension, and AR provides immediate results to both the student and the teacher. The information feedback generated by AR identifies students who are not reading successfully through a quality measure (average percent correct on AR quizzes) and a quantity measure (Accelerated points, which are based on the number of words in the book and its readability level). Hart (1995) noted AR was to provide teachers with the information necessary to turn unguided independent reading into guided independent reading, and this in turn will increase engaged reading time, ensure more successful reading, and ultimately help students develop into successful readers who read well and are well read.

While children are growing up in a world where data are being revealed at an alarming rate and knowledge is simply a click away, reading plays an increasingly crucial role in society (Topping & Paul, 1999). The ability to read is not only fundamental for understanding and mastery of every school subject students will encounter, but literacy also plays a critical and crucial role in students' social and economic lives (Snow, Burns & Griffing, 1998). Consequently, no other factor will have a greater impact on the success of students than their ability to read. With such an emphasis placed on the

importance of reading achievement, educational leaders must clearly articulate the expectation that all students can become successful readers, while providing the most effective strategies and opportunities for students to succeed in reading and adopt lifelong reading practices (Melton, 2004).

According to Smith and Piele (1997), two of the greatest determinants in creating and sustaining high learner expectations are a strong emphasis on time spent on student learning. The AR program was created to engage students in large amounts of reading practice with authentic material at an individually appropriate reading level, as well as provide rewards for student success in reading achievement. Vollands, Topping & Paul (1999), showed the AR program as an effective tool for increasing the quantity of reading comprehension.

According to Winograd and Greenlee (1986), “A valid assessment of reading instruction observes how well and how often students read” (p. 16). The AR program was designed as a tool for teachers to measure student learning in reading achievement to increase the amount of time reading, and to invite and motivate students to improve their reading abilities.

Winograd and Greenlee (1986) stated that the components of a sound reading program include skill mastery, pleasure reading, and informational reading. Through the AR program, a student’s ZPD is measured and monitored so students will experience success while being challenged. After finishing a book, students take a multiple-choice test on the classroom computer, which immediately analyzes and reports the information to the teacher and child. Points are awarded to each child depending on the quality of

answers that were provided on the test, as well as the difficulty level of the trade book selected (Vollands et 1999).

AR assigns a point value to each book based on the number of words in the book and its readability level. Using the AR to guide independent reading requires students to read a book and then take an AR Practice Quiz on the computer. The student must score at least 60% on the quiz to earn any points (Renaissance Learning, 2004). This makes it unlikely a student can earn points without actually reading the book. Security features in the software, as well as monitoring by the teacher, reduce the possibility of cheating.

Personalized student goals establish clear expectations and provide a checkpoint to measure progress and trigger intervention (Hart, 1995). Goals are also motivational for students and teachers. Goal setting not only includes the actual negotiation between the student and teacher to establish attainable goals, but also assumes an information system is in place so progress can be periodically measured. There needs to be a feedback system in place. AR allows the teacher to set goals according to ability level of each individual student. Realistic goals are set, therefore making the goals attainable regardless of the student's functioning level. This makes it possible for all students to achieve some degree of success.

Adjusting instruction to address the individual needs of students is good practice (Allington, 2001). The classrooms of today contain very diverse learners, and one of the difficulties with personalizing instruction is to meet the needs of diverse learner individual progress. This workload can be reduced with computerized learning information systems like the program offered by AR (Beach, 2002).

Chenoweth (2001) reported some of the most common challenges facing the AR program. First, students who participated in the AR program did read more books than non-participants; however, when the program ended, the reading ended. Next, a group of librarians reported that the program limited students in their choice of books. Certain books were not read if there were not any AR tests to accompany those books. Another challenge over the effectiveness of AR was its implementation integrity (Melton, 2004). With almost 55,000 schools having purchased the program, and only 279,000 educators having received training, the quality of implementation varies greatly. This factor can affect the degree to which the program is successful in motivating readers and in improving reading achievement (Chenoweth, 2001; Topping & Paul, 1999). Topping and Paul (1999) conducted a quasi-experimental research evaluation on AR focusing on the formative effects on reading achievement and motivation. When compared to gains from regular classroom teaching and an alternative method, at-risk readers using the AR program, even without full implementation, experienced gains in reading scores (Melton, 2004). In addition, many elementary schools have adopted programs, which encourage authentic reading time and aid in the development of reading skills for life. One such program is the AR program, described as a learning information system designed to heighten student interest in literature and to help teachers manage literature-based reading (Melton, 2004).

Reader Response

AR is a very individualized activity where students find a book, reads the book, takes a quiz on the book, and the cycle repeats itself. The act of social learning is not

present. The following section of the literature will center on reader-response to argue the importance of student interaction in the act of reading. Two experts in the field of reader-response, Rosenblatt and Langer, are critiqued. Separately, each scholar describes the importance of the students' connection with the text, but they also encourage peer discussion as an element that enriches reader-response.

Rosenblatt's Transactional Theory

Rosenblatt is a scholar who made notable contributions to the field of reading and response to literature. Rosenblatt explored the social elements in literature and compared them to the esthetic elements. Rosenblatt (1994) described the idea that literary works exist in a live circuit between the reader and the text, a transaction. She wrote how readers must draw on past experiences to shape the new experience represented on the page, and that readers should take an active role, not a passive one. Rosenblatt (1994) encouraged teachers to create an atmosphere conducive to support such a reading exploration.

Rosenblatt's (1994) idea of transaction is an interrelationship between the text and the reader. Much of the energy of this book actually deals with the idea that a reader's interpretation of the text depends on what the reader has brought to the experience. Factors such as family and community background, personality traits, present mood, memories of the past can all impact the reader's response to a text. Without these past experiences and present interests, the transaction will not come alive. Rosenblatt (1994) encouraged classroom teachers to apply the idea of transactions between individual literary works in their classrooms.

Building Envisionments – Langer

Langer (1995) is another scholar who has researched reader-response, and she constructs a theory that readers create or build envisionments while they read. She described envisionments as “the world of understanding that a person has at any point in time. Envisionments are text-worlds in the mind, and they differ from individual to individual” (p. 9). While envisionments may be built as part of everyday life, they can also play an important role in reading. Langer described envisionments as the type of understanding a reader may have about a text, whether it is being read, written, discussed or tested. These envisionments are able to change with time; as the reader gains insight, develops new ideas, and reads more of a text. Over time, some envisionments lose their importance, while some are built upon and others are reinterpreted. Any of these changes can happen while a text is being written about, thought about or discussed in a classroom. Also, change can happen while another text is being read.

Summary

Chapter II discussed the Mississippi Delta region, and it contained reflections, including poverty and agriculture, that come to mind when this area is mentioned. Also, the importance of reading and reading components were included. Reading fluency and comprehension are vital components of successful reading because they include developing a love for reading. Independent reading is the process that encourages students to read books that interest them. Independent reading provides students with an opportunity to read books of various reading levels as students become more confident readers. Traditional reading includes students being instructed in reading with basal

readers, which are usually above many of the students' reading levels. AR was described as the most popular computerized reading program. Components of AR include STAR, set aside time to read, quizzes and rewards. The AR program contains a process for monitoring students' success as they complete computerized tests after reading a book. Each student would be assigned an individual goal in the AR program. Rosenblatt's theory described readers as taking an active roll in reading by including past experiences with what they are reading. Langer's theory included readers building envisionments, which may change as text was discussed, written or tested. Chapter III describes the procedures that were utilized to investigate the study.

CHAPTER III

METHODOLOGY

This chapter presents the research methodology used in this study. This chapter consists of five parts: research design, participants, instrumentation, procedures, and data analysis.

Research Design

The research methodology used in this dissertation consisted of causal-comparative research design. Gay, Mills, and Airasian (2009) stated, “In causal-comparative research, the researcher attempted to determine the cause, or reason, for existing differences in the behavior or status of groups or individuals” (p. 218). This research design was used for this study because existing data from past MCT reading scores were used. The study was based on the academic reading scores of third through fifth grade students in six Mississippi school districts during Spring 2004 through Spring 2006 and Spring 2005 through Spring 2007. These data were essential to answering the research questions.

Participants

Third, fourth, and fifth grade students’ MCT reading scores from the selected Mississippi Delta school districts were used in this study. Only students’ scores were

required for this study and each district was assured that no names (district, school or student) would be identified in this study.

The participating schools in the study included 1,111 students (Grades 3, 4 and 5). The criteria for inclusion in this study were that the students must have had three consecutive years of test data at the same school or district and that the student must not have been retained during the period covered in this study; 248 students met these criteria, therefore the population of this study was 248. Eighty percent of the population for this study was from the low socioeconomic status. Between 2003-2004 through 2005-2006 school terms, there were two AR and two NAR schools with the amount of data needed to be included in this study. Between 2004-2005 through 2006-2007 school terms, there were two AR and one NAR school with the data needed to be included in this study.

Instrumentation

The MCT reading test, which was developed with challenging academic content standards was used as an instrument for this study. The reading curriculum framework on which the MCT is based on was revised last in 1999-2000 (MDE, 2005). Educators from the state of Mississippi were involved in each component of the reading curriculum test development. The MCT formation process began with a MCT teacher committee, which was made up of exemplary teachers of reading (MDE, 2005). A list of reading skills and objectives were compiled by grade levels into a survey, including questions of whether each skill and objective was currently being taught in their classroom (MDE, 2005). The teacher committee developed a test blueprint for MCT reading (MDE, 2005). The MCT was an untimed assessment that was aligned with Mississippi Curriculum Frameworks,

and it was used to assess students' mastery. Third, fourth and fifth grade students' MCT reading scores were used for this study. The MCT has since changed to the MCT2.

Procedures

The researcher submitted an application to the Mississippi State University Institutional Review Board (IRB) and received permission to conduct the study. See Appendix A. After receiving IRB approval, the researcher sent the superintendent of each of the selected districts a letter that assured confidentiality and explained the nature of the study. Each of the superintendents granted the researcher permission to include data from their districts. The researcher contacted each principal, and copies of available test scores were provided to the researcher. All students' names were replaced with a code that contained letters and numbers to ensure anonymity. Parental consent was not needed because the data were collected from the reading scores of the MCT 2004, MCT 2005, MCT 2006 and MCT 2007 assessments. During the time period of the data collection the MCT was the primary source of data. The state later replaced the MCT with the MCT2.

Data Analysis

Data were collected on student achievement test scores in the area of reading for those students in the selected districts' schools Grades 3 through 5. The source of data for this study was the MCT results from Spring 2004 through Spring 2007. In order to use data from the districts, the researcher first received permission from each of the selected districts' superintendents. Permission was granted to use student test scores, with no names attached. Each name was substituted with an arbitrary numerical and letter code.

Research Question 1—Did students who were instructed using basal readers supplemented with the AR program achieve higher reading scores on the MCT than students who were instructed solely using traditional basal reader methods?

Research Question 2—Did male students who were instructed with basal readers supplemented with the AR program achieve higher reading scores than male students who are instructed solely with the traditional basal readers?

Research Question 3—Did female students who were instructed with basal readers supplemented with the AR program achieve higher reading scores than female students who were instructed solely with traditionally basal readers?

Research questions 1, 2, and 3 were answered using the MCT data. Data were collected from third, fourth, and fifth grades MCT reading scores from 2003-2004, 2004-2005, 2005-2006, and 2006-2007 school terms.

The analyses were divided into two major time periods:

1. For 2003-2004, 2004-2005, and 2005-2006, repeated measures were used to analyze reading scores for both AR and AR students.
2. For 2004-2005, 2005-2006, and 2006-2007, repeated measures were used to analyze reading scores for both AR and NAR students.

The results reported were subdivided into two sections. The results reported in these two sections will be for groups as described below.

Accelerated Reader (AR) and Non-Accelerated Reader (NAR) Group I

The AR group I consisted of students' scores from schools that used the AR program. Also, three consecutive years of MCT data were available for each student.

These students' scores were from Grade 3 in 2003-2004, Grade 4 in 2004 –2005 and Grade 5 in 2005 – 2006. The NAR group I consisted of students' scores from schools that did not use AR as a supplement. However, there were three consecutive years of MCT reading for every student's score that was included. These students' scores were from Grade 3 in 2003-2004, Grade 4 in 2004 –2005 and Grade 5 in 2005 – 2006.

Accelerated Reader (AR) and Non-Accelerated Reader (NAR) Group II

The AR group II consisted of students' scores from schools that used the AR program. There, also, three consecutive years of MCT reading scores were available. These students' scores were from Grade 3 in 2004-2005, Grade 4 in 2005 –2006 and Grade 5 in 2006 – 2007. The NAR group II consisted of students' scores from schools that did not use AR as a supplement, and there were three consecutive years of MCT reading scores for each student. These students' scores were from Grade 3 in 2004-2005, Grade 4 in 2005 –2006 and Grade 5 in 2006 – 2007.

Analysis of the Mississippi Curriculum Test for Students using Accelerated Reader as a Supplemental Aid and Students who used only the Traditional Basal Text

Repeated measures ANOVA was used for this study because the same subjects were used for each treatment (Triola, 1995). ANOVA using repeated measures of means was used to analyze the MCT reading mean scores for spring of school years 2003-2004, 2004-2005, and 2005-2006 of students who used the AR as a supplemental aid and students who used only the traditional basal text (NAR). Also, an ANOVA using repeated measures of means was used to analyze the MCT reading mean scale scores for

spring of school years 2004-2005, 2005-2006, and 2006-2007 of AR students and NAR students. An ANOVA using repeated measures of means allows researchers to monitor how the participants change over the passage of time, both in the case of long-term situations like longitudinal studies and in the much shorter-term case of practice effects (Triola, 1995). Triola wrote the primary strengths of the ANOVA using repeated measures of means are that it makes an analysis more efficient and helps keep the variability low. This helps to keep the validity of the results higher, while still allowing for smaller than usual subject groups. The repeated measure of means was used on these scores because the tests were taken one year apart by students for three consecutive years. The analysis was concerned with the trend of the three means of which three test results were taken on each student. The primary objective was to investigate the trend of the means over three successive test results.

CHAPTER IV
RESEARCH FINDINGS

Introduction

This study attempted to determine if AR made a positive impact on students' reading growth when compared with students whose primary reading instruction was the traditional basal reader. This chapter includes research question 1 and analysis, research question 2 and analysis, research question 3 and analysis, and discussion.

Descriptive Information

Six school districts were selected to participate in this study. The student populations in each of the selected schools are similar, as 80% or more of the students qualified for free or reduced lunch and 90% or more were African-American.

Research Question 1

**Analysis of the Mississippi Curriculum Test Scores for the AR
and NAR Students in Group I**

Table 1 shows the means for students in-group I who attended the two schools that used AR and the two schools that used only the traditional basal text (NAR) during school years 2003-2004, 2004-2005 and 2005-2006. Students were included in a group

only if they attended the school for the three consecutive years and had a MCT score for each year.

As shown in Table 1, the mean scores for students at the AR and NAR schools were constantly increasing over the years. The means for students in the first accelerated reader school (AR 1) steadily increased over the three years, from 476.66 in 2003-2004 to 499.00 in 2004 -2005 and to 513.86 in school year 2005-2006. The mean score increased by 41.20 points from 2003-2004 to 2005-2006. Also, Table 1 displayed the mean scores for students at the second AR school (AR 2) and the two NAR schools (NAR 1 and NAR 2). The means increased by 42.07 points (469.45 to 511.52) for students in school AR 2 from 2003-2004 to 2005-2006. The means increased by 26.92 and 25.47 points for students in school NAR 1 and NAR 2, respectively. These results shows that the increased mean scores for students in the two AR schools were larger than the increased mean scores for students in the two NAR schools.

Table 1
Distribution of AR and NAR Students' MCT Reading Scores for
2003-2004, 2004-2005, and 2005-2006

Group	N	Mean Score 3 rd Grade 2003-2004	Mean Score 4 th Grade 2004-2005	Mean Score 5 th Grade 2005-2006
AR 1	29	472.66	499.00	513.86
AR 2	29	469.45	490.21	511.52
NAR 1	52	467.58	494.69	494.50
NAR 2	32	489.31	509.03	513.78

Analysis of MCT reading mean scores for students attending the AR and NAR schools using repeated measures of mean is presented in Table 2. The ANOVA using repeated measures of MCT reading scores was used to provide a test which determined if the magnitude of change in student achievement from 2003-2004 to 2005-2006 was differences for the AR students and NAR students. The repeated measures of mean test revealed that no statistical significance was found.

Table 2
Analysis of AR and NAR Students' MCT Reading Scores
Using Repeated Measures of Mean for 2003-2004,
2004-2005, and 2005-2006

Source of Variation	Degrees of Freedom	Mean Square	F	Sig.
Group	3	7077.049	2.067	.107
Error	138	3423.831		
Total	141	10500.880		

Analysis of the Mississippi Curriculum Test Scores for the AR and NAR Students in Group II

Table 3 showed the mean scores for students in group II who attended two schools that used AR and one school that used only the traditional basal text (NAR) during school years 2004-2005, 2005-2006 and 2006-2007. The means were collected for students at each school over the period of years reflected in this study. Students were included in a group only if they attended the school for the three consecutive years and had a reading MCT score for each year.

As shown in Table 3 the mean scores for students from AR and NAR schools were constantly increasing over the years. The means for students in the first accelerated reader school increased over the three years, from 470.33 in 2004-2005 to 498.55 in 2005-2006 and to 525.24 in school year 2006-2007. The mean scores increased by 54.91 points from 2004-2005 to 2006-2007. Also, Table 3 contained the mean scores for students from the second AR school (AR 2) and the NAR school. The means increased by 50.75 points for students in school AR 2 from 2004-2005 to 2006-2007. The means increased by 24.46 points for students in the NAR school. These results showed that the increased mean scores for students in the two AR schools were more than twice the increased mean scores for students in the NAR school.

Table 3
Distribution of AR and NAR Students' MCT Reading Scores for
2004-2005, 2005-2006, and 2006-2007

Group	N	Mean Score 3 rd Grade 2004-2005	Mean Score 4 th Grade 2005-2006	Mean Score 5 th Grade 2006-2007
AR 1	33	470.33	498.55	525.24
AR 2	36	452.44	492.36	503.19
NAR	37	474.43	493.97	498.89

Analysis of MCT reading mean scores for students attending the AR and NAR schools using repeated measures of mean is presented in Table 4. The ANOVA using repeated measures of MCT reading scores was used to provide a test which determined if the magnitude of change in student achievement from 2004-2005 to 2006-2007 was

differences for the AR students and NAR students. The repeated measures of mean test revealed that no statistical significance was found.

Table 4

Analysis of AR and NAR Students' MCT Reading Scores Using Repeated Measures of Mean for 2004-2005, 2005-2006, and 2006-2007

Source of Variation	Degrees of Freedom	Mean Square	F	Sig.
Group	2	2044.878	1.449	.240
Error	103	1411.673		
Total	105	3456.551		

Research Question 2

Analysis of the Mississippi Curriculum Test Scores for the AR and NAR Male Students in Group I

Table 5 presents the means for male students in group I who attended two AR schools (AR 1 and AR 2) and two NAR schools (NAR 1 and NAR 2) during school years 2003-2004, 2004-2005 and 2005-2006. The means were given for students at each school across years. Students were included in a group only if they attended the school for the three consecutive years and had a MCT score for each year as discussed earlier.

As shown in Table 5 the mean scores for students at the AR and NAR schools were increasing over the years. The means for male students in the first accelerated reader school (AR 1) increased by 55.80 points from 2003-2004 to 2005-2006. Table 5 showed the mean scores for male students at the second AR school (AR 2) and the two

NAR schools (NAR 1 and NAR 2). The means increased by 36.20 points for students in school AR 2 from 2003-2004 to 2005-2006. The means increased by 32.30 and 18.66 points for students in school NAR 1 and NAR 2, respectively. These results showed that the increased mean scores for male students in the two AR schools were larger than the increased mean scores for male students in the two NAR schools.

Table 5
Distribution of AR and NAR Male Students' Reading Scores for
2003 – 2004, 2004 – 2005, and 2005 – 2006

Group	N	Mean Score 3 rd Grade 2003-2004	Mean Score 4 th Grade 2004-2005	Mean Score 5 th Grade 2005-2006
AR 1	10	466.90	502.30	522.70
AR 2	15	464.40	489.00	500.60
NAR 1	23	467.48	495.35	499.78
NAR 2	15	479.47	490.07	498.13

Analysis of MCT reading mean scores for male students attending the AR and NAR schools using repeated measures of mean is presented in Table 6. The ANOVA using repeated measures of MCT reading scores was used to provide a test which determined if the magnitude of change in student achievement from 2003-2004 to 2005-2006 was differences for male AR students and male NAR students. The repeated measures of mean test revealed that no statistical significance was found.

Table 6

Analysis of AR and NAR Male Students' MCT Reading Scores
Using Repeated Measures of Mean for 2003-2004,
2004-2005, and 2005-2006

Source of Variation	Degrees of Freedom	Mean Square	F	Sig.
Group	3	1018.173	.283	.837
Error	59	3597.863		
Total	62	4616.036		

Analysis of the Mississippi Curriculum Test Scores for the AR and NAR Male Students in Group II

Table 7 presents the means for male students in group II who attended two AR schools (AR 1 and AR 2) and the NAR schools during school years 2004-2005, 2005-2006 and 2006-2007. As shown in Table 7, the mean scores for students at the AR and NAR schools were increasing over the years. The means for male students in the first accelerated reader school (AR 1) increased by 48.78 points from 2004-2005 to 2006-2007. Table 7 showed the mean scores for male students at the second AR school (AR 2) and the NAR school. The mean scores increased by 53.81 points for students in school AR 2 from 2004-2005 to 2006-2007. The mean increased by 19.66 points for students in the NAR school. These results show that the increased mean scores for male students in the two AR schools were much larger than the increased mean scores for male students in the NAR school.

Table 7

Distribution of AR and NAR Male Students' MCT Reading Scores
for 2004-2005, 2005-2006, and 2006-2007

Group	N	Mean Score 3 rd Grade 2004-2005	Mean Score 4 th Grade 2005-2006	Mean Score 5 th Grade 2006-2007
AR 1	18	470.78	497.83	519.56
AR 2	22	445.64	486.64	499.45
NAR	23	471.22	489.52	490.83

Analysis of MCT reading mean scores for male students attending the AR and NAR schools using repeated measures of mean was presented in Table 8. The ANOVA using repeated measures of MCT reading scores was used to provide a test which determined if the magnitude of change in student achievement from 2004-2005 to 2006-2007 was differences for male AR students and male NAR students. The repeated measures of mean test revealed that no statistical significance was found.

Table 8

Analysis of AR and NAR Male Students' MCT Reading Scores
Using Repeated Measures of Mean for 2004-2005,
2005-2006, and 2006-2007

Source of Variation	Degrees of Freedom	Mean Square	F	Sig.
Group	2	5331.152	1.107	.337
Error	60	4816.014		
Total	62	10147.166		

Research Question 3

Analysis of the Mississippi Curriculum Test Scores for the AR and NAR Female Students in Group I

Table 9 depicts the means for female students in group I who attended two AR schools (AR 1 and AR 2) and two NAR schools (NAR 1 and NAR 2) during school years 2003-2004, 2004-2005 and 2005-2006. Female students were included in a group only if they attended the school for the three consecutive years and had a MCT score for each year.

As shown in Table 9, the mean scores for female students from the two AR schools and the NAR 2 school increased over the years. The mean score for female students in the first accelerated reader school (AR 1) increased by 33.53 points from 2003-2004 to 2005-2006. Table 9 showed the mean scores for female students at the second AR school (AR 2) and the two NAR schools (NAR 1 and NAR 2). The mean score increased by 48.35 points for students in school AR 2 from 2003-2004 to 2005-2006. The means increased by 22.65 and 29.59 points for students in school NAR 1 and NAR 2, respectively. These results showed that the increased mean scores for female students in the two AR schools were larger than the increased mean scores for female students in the two NAR schools.

Table 9

Distribution of AR and NAR Female Students' MCT Reading Scores
for 2003-2004, 2004-2005, and 2005-2006

Group	N	Mean Score 3 rd Grade 2003-2004	Mean Score 4 th Grade 2004-2005	Mean Score 5 th Grade 2005-2006
AR 1	19	475.68	497.26	509.21
AR 2	14	474.86	491.50	523.21
NAR 1	29	467.66	494.17	490.31
NAR 2	17	498.00	525.76	527.59

Analysis of MCT reading scores for female students attending the AR and NAR schools using ANOVA repeated measures of mean was presented in Table 10. The ANOVA using repeated measures of MCT reading scores was used to provide a test which determined if the magnitude of change in student achievement from 2003-2004 to 2005-2006 was differences for female AR students and female NAR students. The repeated measures of mean test revealed that no statistical significance was found.

Table 10

Analysis of AR and NAR Female Students' MCT Reading Scores Using
Repeated Measures of Mean for 2003-2004, 2004-2005, and 2005-2006

Source of Variation	Degrees of Freedom	Mean Square	F	Sig.
Group	3	11797.387	3.720	.115
Error	75	3171.757		
Total	78	14969.144		

Analysis of the Mississippi Curriculum Test Scores for the AR and NAR Female Students in Group II

Table 11 summarizes the mean scores for female students in group II who attended two AR schools (AR 1 and AR 2) and the NAR school during school years 2004-2005, 2005-2006 and 2006-2007. The means were received for students at each school across years.

As shown in Table 11, the mean scores for students at the AR and NAR schools were increasing over the years. The means for female students in the first accelerated reader school (AR 1) increased by 62.27 points from 2004-2005 to 2006-2007. Table 11 showed the mean scores for male students at the second AR school (AR 2) and the NAR school. The mean scores increased by 45.93 points for students in school AR 2 from 2004-2005 to 2006-2007. The mean increased by 32.43 points for students in the NAR school. These results showed that the increased mean scores for female students in the two AR schools were much larger than the increased mean scores for female students in the NAR school.

Table 11

Distribution of AR and NAR Female Students' MCT Reading Scores for 2004-2005, 2005-2006, and 2006-2007

Group	N	Mean Score 3 rd Grade 2004-2005	Mean Score 4 th Grade 2005-2006	Mean Score 5 th Grade 2006-2007
AR 1	15	469.80	499.40	532.07
AR 2	14	463.14	501.36	509.07
NAR	14	479.71	501.29	512.14

Analysis of MCT reading mean scores for female students attending the AR and NAR schools using repeated measures of mean was presented in Table 12. The ANOVA using repeated measures of MCT reading scores was used to provide a test which determined if the magnitude of change in student achievement from 2004-2005 to 2006-2007 was differences for female AR students and female NAR students. The repeated measures of mean test revealed that no statistical significance was found.

Table 12
Analysis of AR and NAR Female Students' MCT Reading Scores
Using Repeated Measures of Mean for 2004-2005,
2005-2006, and 2006-2007

Source of Variation	Degrees of Freedom	Mean Square	F	Sig.
Group	2	969.034	0.283	.755
Error	40	3419.251		
Total	42	4388.285		

Discussion

The purpose of AR was to provide teachers with the information necessary to turn unguided independent reading into guided independent reading, and this in turn would increase engaged reading time, ensure more successful reading, and ultimately help students develop into successful readers who read well and are well read (Hart, 1995). Since AR allowed for books to be read based on the level of student's ability, it provided greater opportunity for students to experience a successful reading experience and impact both students and teachers (Renaissance Learning, 2004).

The present study supported views expressed in Renaissance (2004). Generally, AR books are made available for children and are chosen by teachers or librarians. Students read a book they selected, test on the computer, and received immediate feedback (Renaissance Learning, 2001). Also, students receive reports to take home for their parents. The reports offered information such as the score from the current test, a score that represents a nine-week average, and a year-to-date score.

The findings showed that the mean scores increased over the 3 years in each case for the AR and NAR students in group I and group II. But, there were no statistically significant differences in mean scores between the AR and NAR students. However, the increased mean scores for AR students were larger than the increased mean scores for the NAR students. But, since there were greater increases by AR students than by NAR students, it can be surmised that some other variable influenced the greater increases. Accelerated Reader has several objectives to help students build a lifelong love of reading and learning, and those objectives include: obtaining reliable, objective information, helping every student master standards, improving classroom management, and keeping each student challenged (Renaissance Learning, 2004).

However, in this study, there was not a control in place for quality of instruction in the AR or NAR districts. Also, there was not a control in place for professional development for the AR schools. These two areas are very important when determining reasons for or lack of student achievement.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Chapter five presented the summary of the research conducted and conclusions, which were drawn from the findings. The last section includes recommendations for future research.

Summary of the Study

This study was needed to determine if the AR program made a positive impact in schools, which were attempting to increase student achievement in reading. The purpose of this study was to determine if students who received reading instruction supplemented with the AR Program achieved higher reading scores, as measured by the MCT, than students who were instructed using only traditional basal reader textbooks, which were identified as NAR.

This study is important to school administrators, whether it is central office administrators or building level administrators because one ultimate goal is increased student achievement. More than ever, school administrators are seeking ways to ensure student success, and that success begins with successful reading. While school administrators are attempting to meet accountability standards, successful school officials are careful with spending, so it is extremely important to get the desired results when spending money and using professional development time.

The Mississippi Delta region was selected for this study because the researcher has access to the area, and many of the schools in this region are performing below proficient. From the review of current research, it was found that the Mississippi Delta region ranked as the poorest section of the poorest state. While agriculture and poverty come to mind first when the Mississippi Delta is mentioned, there must be a focus on educating the community, and that focus begins with effective reading. The teaching of reading is one of the highest priority areas in modern education. Researchers in reading disciplines have continued to discuss the fluency of reading and ability to read naturally as well as freely. The expectation was that teachers should provide students with appropriately challenging instructional materials, and AR represented one of such challenging instructional materials. Children were expected to acquire sound techniques to read well, and the ability to read well was essential to learning to love to read. It was believed that AR could help encourage students to love to read. Reading fluency could contribute to thorough comprehension and enjoyment to the reader and teachers believed that AR could motivate students to want to read.

It was also found that independent reading encourages students to read books that interest them and AR can be used as an independent reading tool. It is vital that teachers and librarians provide students with quality literature. Asselin (2000) acknowledged that it was necessary for students to receive frequent practice, supportive feedback as well as performance opportunities and assessments. AR could be used to help students receive frequent reading practice. Krashen (2005) acknowledged that evidence supports that

literacy development is enhanced when children have access to interesting reading material and a time and place to read.

To meet the demands of students learning to read fluently and comprehend what they have read, AR was used by some districts as a supplement. According to Baker and Wigfield (1999), students who are motivated by competitions will, also, show a high degree of reading avoidance, particularly for more difficult reading tasks or reading outside of school requirements. Basal readers have been criticized for controlled vocabulary, emphasis on isolated skills, and stories that lacked conflict or authentic situations (Koskinen & McCarthy, 1995). With the AR program, the trade books were readability leveled and included assessments made available for students.

The Causal comparative research design was used. This research design was used because the study involved collecting existing data to compare the average mean scores in reading for both AR and NAR students. This research design was used for this study because existing data from past MCT reading scores were used. The study was based on the academic reading scores of third through fifth grade students in six Mississippi school districts during Spring 2004 through Spring 2006 and Spring 2005 through Spring 2007. The participants in this study were third, fourth and fifth grade students' scores, which met the criteria.

This study focused on the quest to investigate whether there was a relationship between reading achievement and the supplemental program, AR. The importance of reading could not be over-emphasized because students with effective reading skill were

more likely to succeed in other subject areas; reading involved understanding and comprehension.

Also the findings in this study indicated that students who used basal readers supplemented with the AR program did not have significantly higher MCT reading mean scores than those students who were instructed solely on traditional basal reading methods. Nevertheless, the result showed that students who were exposed to the AR program achieved slightly higher MCT reading test scores than their counterparts who were instructed using only the traditional basal program. However, the increased mean scores for AR students were larger than the increased mean scores for the NAR students. But, since there were larger increases by AR students than by NAR students, there may have been some other variable that influenced the greater increase.

Conclusion

In this study, the AR program did not statistically increase the MCT reading scores of students who were instructed with the program when compared with those students who were not taught with AR, as a supplement. However, scores of the students, who received AR, were raised more than the scores of students, who did not receive. Therefore, the AR program may be beneficial to schools that are seeking to raise their MCT2 reading scores. While the MDE accountability rankings for schools have changed since the test has changed from MCT to MCT2, schools are continuously seeking methods to help them improve and achieve higher rankings.

Recommendations for Future Research

The findings suggested that future research is needed in the following areas:

1. Include AR schools that have documented professional development activities for all teachers who will be using AR.
2. Develop and include a questionnaire for AR teachers. This would be helpful in gathering a teachers' voice, which will include teachers' perceptions.
3. Expand the study group to include middle school. This study was limited because only data from upper elementary schools was included.
4. Conduct a similar study in a more affluent area that may have more access to resources would allow accessibility from home. Because this study was limited to an area where most students were eligible for free or reduced lunch, many of the parents might not have been able to afford computers to access AR from home.
5. Provide much needed professional development for all teachers who will be utilizing the program. Ensuring teachers using the AR program have the necessary training to implement the program's components might result in a greater difference in the AR and Non AR scores.

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APPENDIX A
IRB APPROVAL FORM



June 26, 2008

Kenyartic Brown
816 White Street
Cleveland, MS 38732

RE: IRB Study #08-153: The Impact of Accelerated Reader on the Reading Achievement of Third, Fourth and Fifth Grade Students in the Mississippi Delta

Dear Mr. Brown:

The above referenced project was reviewed and approved via administrative review on 6/26/2008 in accordance with 45 CFR 46.101(b)(2). Continuing review is not necessary for this project. However, any modification to the project must be reviewed and approved by the IRB prior to implementation. Any failure to adhere to the approved protocol could result in suspension or termination of your project. The IRB reserves the right, at anytime during the project period, to observe you and the additional researchers on this project.

Please note that the MSU IRB is in the process of seeking accreditation for our human subjects protection program. As a result of these efforts, you will likely notice many changes in the IRB's policies and procedures in the coming months. These changes will be posted online at <http://www.orc.msstate.edu/human/aahrpp.php>. The first of these changes is the implementation of an approval stamp for consent forms. The approval stamp will assist in ensuring the IRB approved version of the consent form is used in the actual conduct of research. You must use copies of the stamped consent form for obtaining consent from participants.

Please refer to your IRB number (#08-153) when contacting our office regarding this application.

Thank you for your cooperation and good luck to you in conducting this research project. If you have questions or concerns, please contact MSU IRB at irb@research.msstate.edu or by phone at .

Sincerely,

Katherine Crowley
Assistant IRB Compliance Administrator

cc: Dr. Mabel Okojie

Office for Regulatory Compliance

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