

ABSTRACT

The Accelerated Reader Program and Students' Attitude Towards Reading

Deborah Ann Focarile

Mentor: Patricia A. Sharp, Ph.D.

This study explores the relationship between the use of the Accelerated Reader Program, a computerized reading management program marketed by Advantage Learning Systems, Inc., and students' attitudes towards reading while specifically focusing on the difference in attitudes toward reading between low achieving and high achieving students. In addition, this study describes the relationship between reading achievement and the use of the Accelerated Reader Program.

This study is quasi-experimental in nature since it does not use a random sample or random assignment to groups. In order to assess student attitudes toward reading, the Heathington Attitude Scale (intermediate version) was employed. The Heathington Attitude Scale is a Likert scale, or summated rating and gives feedback about school-related reading activities such as free reading and organized reading, reading at the library, reading at home, other recreational reading, and general reading. The Gates-MacGinitie Reading Tests were used to assess reading achievement. These tests, published by Riverside Publishing Company, are standardized achievement of reading from the end of Kindergarten through Grade 12. Each level test consists of two

tests—a vocabulary test and a comprehension test. The reading passages include a balance of different genres of writing.

Results of the study suggest that there is no significant relationship between the use of the Accelerated Reader Program and student interest toward reading. Likewise, the study showed that the Accelerated Reader program did not have a significant impact on the reading interest of low achieving students when compared to high achieving students. Similarly, the data indicated that there was not a significant relationship between the use of the Accelerated Reader Program and student reading achievement. Finally, recommendations have been presented for further research of the following: the study should be conducted using a larger sample of participants and a comparison of the increase or decrease in student interest in reading during the school year between the students using the Accelerated Reader Program and those who do not.

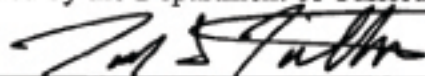
The Accelerated Reader Program and Students' Attitude Towards Reading

by

Deborah Ann Focarile

A Dissertation

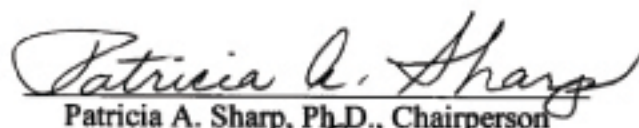
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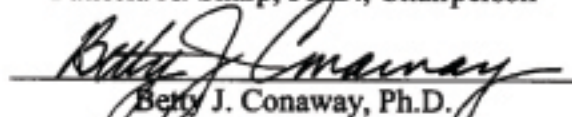
Tony L. Talbert, Ed.D., Interim Chairperson

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Approved by the Dissertation Committee



Patricia A. Sharp, Ph.D., Chairperson



Betty J. Conaway, Ph.D.



Larry J. Browning, Ed.D.

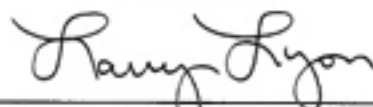


W. Frederick Curtis, Ed.D.



Robert G. Packard, Ph.D.

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J. Larry Lyon, Ph.D., Dean

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DEDICATION

To my daughters Emma Rose Xiaoling, Olivia Xinjuan and to Celia, who waits for us in
China —

Turn your ears to wisdom and apply your hearts to understanding. Let love and
faithfulness never leave you; bind them around your neck and write them on the tablet
of your hearts. Proverbs 2-3

CHAPTER ONE

Introduction

In our society today there are as many different reading programs as there are philosophies of teaching. Programs may address the needs of special learning populations such as learners labeled at-risk and gifted learners and whole class instructional programs (Alexander & Heathington, 1988; Dooley, 1993; Fehrenbach, 1991; Levande, 1993; McGinnis & Smith, 1982; and Miller, 1971) using direct instruction or whole language. These programs vary by instructional level, by content organization, and by sequence. There are, however, components that run through the programs that have proven successful over time (Dupuis, Lee, Badiali, & Askov, 1989; Lamb & Arnold, 1988; Lapp & Flood, 1992; Pikulski, 1994; Rupley, Logan, & Nichols, 1998). Based on the commonalities of successful reading programs and sound educational research, educators can continue to build a framework for researching and evaluating reading programs. Effective reading instruction may then be achieved by uniting theory and practice.

Components

As students pass the primary grades, a developmental component is needed in the reading program. This component refines the skills that the students acquired earlier in their reading instruction (Dupuis, et al., 1989). In the intermediate grades, the focus begins to shift to promoting critical reading skills. The developmental component never completely disappears from the reading program regardless of the grade level.

According to Dupuis, et al. (1989), content reading becomes the focus for most reading programs beginning in the fourth grade and continues through the secondary schools. The reader gains information by applying the developmental reading skills acquired during the primary grades (p. 325).

At the secondary level, the movement toward functional reading is more noticeable. An intermediate reading program should contain curriculum that addresses the understanding of expository text. The functional component occurs when the reading program is integrated with subject matter and the students are instructed in strategies for understanding nonfiction reading material. Lamb and Arnold (1988) believe that the functional component of a reading program “receives too little emphasis in the intermediate and secondary schools. Teachers erroneously assume that their pupils can read and understand expository text material without instruction (p. 186).”

Vocabulary instruction is an integral part of a reading program. A vocabulary component in the reading program enables the students to acquire new information through the use of key terms and concepts. “Vocabulary instruction that is geared to the active process of learning and connects new information to previously learned experiences provides the means for students to make the connection between new words and their past experiences (Rupley, Logan, & Nichols, p. 336-346).”

Instruction becomes even more important when there are at-risk students. According to Pikulski (1994), another component of a primary reading program is to provide intervention for at-risk readers as early as possible. He states, “A growing case can be made that treatment is most effective if it comes early in a child’s school career—in first grade or perhaps even before; however, some students will need additional, intense

support beyond first grade (p. 35).” Based on this theory, intervention for at-risk students is a component that should be continued in an intermediate level reading program.

A good reading program will include a recreational reading component. Lamb and Arnold (1988) define this as “those portions of the reading curriculum that promote enjoyment and pleasure in reading both narrative and expository text.” The benefit of including such a component in an intermediate reading program is that it fosters interest in reading and develops positive attitudes and habits that will last a lifetime (p. 186).

Lapp and Flood (1992) point out that a continuous process of evaluation is crucial to the success of a reading program. This evaluation should embrace the feedback of both the teacher and the student. Student feedback is essential to the vitality of the program, as they are the primary users and beneficiaries. Educators cannot simply embrace a program because it has been institutionalized if it is not meeting the needs of the students (p. 638). In light of these six components (developmental, functional, vocabulary, intervention for at-risk readers, recreational, and evaluation), this study will look at the Accelerated Reader program.

The Accelerated Reader Program

A reading program differs from reading instruction in that a program is usually a collection of teaching material, such as one would find in a commercial kit. On the other hand, reading instruction refers to the direct instruction by the teacher. One reading management program that recently has been implemented on many school campuses is the Accelerated Reader Program (Institute for Academic Excellence, 2000). This program, developed by Advantage Learning Systems, Inc., is a computerized management system for teachers. It allows the teacher to set reading levels and goals for

students. Once the students have read a book, they then take a computerized test. The test is scored and recorded by the software program. The students' progress can then be monitored by the teacher through the various computerized reports. Advantage Learning Systems, Inc. is part of the Institute for Academic Excellence.

According to The Institute for Academic Excellence, Inc. in the Winter 2000 release of *Getting Started with Accelerated Reader and Reading Renaissance*, Accelerated Reader began as a supplemental reading program. The Accelerated Reader Program is a computerized reading management program marketed by Advantage Learning Systems, Inc. The program was originally designed to "motivate and monitor reading that was supplemental to a teacher's classroom reading program." The institute now believes that "Accelerated Reader is most powerful when it is central to the reading curriculum." The system is used for testing and record-keeping. After reading a book, students take a computerized test designed to measure reading comprehension of the reading material. Points are earned by the student based on text difficulty and the number of correct responses.

According to various reports sponsored by the Institute for Academic Excellence, student reading achievement will improve as a result of using Accelerated Reader in the classroom. Peak and Dewalt (1994) report that the sample group of 9th graders who participated in Accelerated Reader for the previous five years showed greater gains on the reading scale scores for the California Achievement Test (CAT) than did their counterparts who did not use Accelerated Reader. Phelps (1999) indicated that students in one Texas school district showed a growth rate of 12.3% in reading on the Texas Assessment of Academic Skills over a four-year period.

Another study also sponsored by the Institute for Academic Excellence indicated that there is a correlation between the use of computerized reading systems, such as Accelerated Reader and the mean gains on CAT (Children Assistance Trust) reading scores over a five-year period (Peak & Dewalt, 1993). The study also pointed out the fact that the faculty and staff involved were enthusiastic over the program and questioned whether it was this excitement that spurred the students on to greater reading achievement or the program itself.

On the other hand, McMillan (1996) conducted an independent study of fourth graders to determine if the use of the Accelerated Reader Program would have a positive effect on reading comprehension. The study used a quasi-experimental non-randomized pretest-posttest control group design as the study examined a cause-effect relationship. The study consisted of fourth graders from three comparable different schools with similar reading curriculum, student population and administration within the same district. The experimental group, which used the Accelerated Reader Program, was comprised of sixty-seven students who used the Accelerated Reader Program for one year. The control group, which did not use the program, was made up of 147 students. The study indicated that the use of the Accelerated Reader Program did not significantly increase the reading comprehension skills of the fourth graders studied as measured by the Texas Assessment of Academic Skills, a criterion-referenced test. McMillan went on to conclude that if a school district adopts the Accelerated Reader Program, it should not expect to see increased reading comprehension in the fourth grade, at least in the short term.

A study of 77 fourth and fifth graders was conducted on a campus where 72% of the students are on free or reduced lunch (Knox, 1996). The campus had just purchased

the Accelerated Reader program. The study looked at the effect Accelerated Reader had on achievement scores in reading comprehension and reading vocabulary for students in the fourth and fifth grades. Knox found that there did not appear to be any statistical difference between the use of the Accelerated Reader program and a teacher directed reading program when looking at the reading comprehension and reading vocabulary skills for fourth and fifth graders.

Holman (1998) produced similar findings. In a correlational study between the Accelerated Reader program and the reading comprehension of fourth and fifth grade students, the researcher found that the impact of the Accelerated Reader program on reading comprehension was not statistically significant. In addition, a correlation between points earned in the Accelerated Reader program and reading comprehension gains were not statistically significant.

Attitudes

According to Webster (1985), an attitude is a mental position, a feeling or emotion toward a fact or state. Attitudes toward reading are important as they may affect how well a person reads and to what extent they find intrinsic value in the reading process.

A report submitted by Dolores McKnight to the Institute for Academic Excellence summarized the findings of McKnight's research. The study looked at 17 fifth grade students. The students participated in the Accelerated Reader program for 11 weeks. Through the use of a pre- and post-survey it was determined that "Overall, reading attitudes greatly improved after using Accelerated Reader for 11 weeks."

Rosenheck (1996), a researcher with no known affiliations to the Institute for Academic Excellence, conducted a study of 222 fifth graders to determine if the use of Accelerated Reader would impact attitudes toward reading, the media center and frequency of library use. Her findings indicated that the use of Accelerated Reader did not make any significant differences in fifth graders' attitudes toward reading or use of the library. It is suggested that this study be conducted on a larger survey population.

McMillan (1996) conducted a quasi-experimental non-randomized study of fourth graders to determine if a relationship existed between the Accelerated Reader Program and reading motivation. The researcher concluded that the use of the program did increase reading motivation for this sample of 67 students. McMillan attributes the increase in motivation to the fact that students were reading independently.

A qualitative study of a fourth and fifth grade multi age classroom looked at the effects of conducting student-teacher reading conferences in an inner city school (Verano, 1999). Student progress was evaluated through authentic assessment, Accelerated Reader testing, self-evaluation and goal setting. All students involved in the study showed growth in reading levels. Because of the nature and focus of the study, it was not made clear whether the reading growth was related to the student-teacher conference, an element of the Accelerated Reader program.

Classroom Diversity

Meeting the needs of the heterogeneous classroom is a difficult task. While all students may benefit from independent reading, other needs must be addressed for any one student to receive the maximum benefit from the reading program.

According to Levande (1993), able readers often “perceive relationships, solve problems, demonstrate observational skills, and grasp abstract ideas easily.” Reading programs for gifted readers should take into account their abilities and challenge their individual gifts. These programs should emphasize cognitive thought at an advanced level through critical reading and productive and imaginative thinking.

Dooley (1993) proposes that stimulating programs for able readers are marked by a differentiated curriculum. One way to do this is to modify the process of exploring content. These modifications are made by utilizing questions and activities that draw on higher levels of thought. The unique needs of the able reader require a greater emphasis on content appropriate critical and creative thinking skills.

A study using think-aloud protocols, reading aloud and verbalizing thought during the reading process, was conducted by Fehrenbach (1991). The study determined that able readers utilized six strategies more frequently than average readers. These strategies included: rereading, inferring, analyzing structure, watching or predicting, evaluating, and relating to content area.

Current literature focused on able readers indicates that able readers, in order to have their intellectual needs met and be mentally challenged, require a reading program that is individualized and exposes the reader to a vast amount of literature of various genres. For intellectual stimulation and growth to occur, it is important for the able reader to be challenged on a higher cognitive level.

On the other end of the spectrum are students struggling to make sense out of printed text. These students often show signs of emotional distress or lack of interest towards reading due to their inefficiencies. McGinnis and Smith (1982) report that one of the key objectives in providing remedial reading assistance is motivation. The drive in

the student to improve their reading must be stirred. The struggling reader must take an active part in the diagnosis of their reading problems, the derivation of the treatment, and the evaluation of the progress made.

According to Miller (1971), a corrective and remedial reading program is one based on developmental teaching. It should be delivered on a child's instructional or independent reading level. The instruction should always be presented with consideration given to the student's preferred learning modality as well as the diagnosed reading difficulties. The instruction, though directed at the reading difficulties, must build upon the student's strength.

Alexander and Heathington (1988) indicate that it is beneficial for corrective and remedial readers to have access to reading materials that interest them. Interesting reading material is a motivator, and students may give special interest to a topic that is of interest to them. Another suggestion is for teachers of corrective and remedial reading students to administer some form of an interest inventory to determine student interest.

The Accelerated Reader program might address the needs of both the able and remedial reader in that it offers diversity in reading materials and allows the student to read materials on a level that is appropriate for each individual. However, there is a lack of research that focuses on special populations and the Accelerated Reader program.

Statement of the Problem

Educators should provide all of our students with instruction that is appropriate for their reading development. For some students this may require remediation and reteaching, for others it may mean encouraging growth beyond what is required. However, most reading educators will tell you that it essential to impart a love for reading

to all students regardless of their reading level. The Accelerated Reader Program is advertised as an individualized program that motivates students while encouraging them to read quality literature at an appropriate level. It is important for independent research to be conducted to determine if the claims made by Advantage Learning Systems, Inc. about its program are accurate.

When reviewing the literature on Accelerated Reader, it is important that the source of the research be considered. Major concern exists when much of the available research has either been sponsored by a commercial organization such as Advantage Learning Systems, which is connected with the Institute for Academic Excellence, or is independent research that has not been published in a peer reviewed journal. In addition, research conducted to date concerning the Accelerated Reader program has been limited to entire classroom populations. Only recently have findings been published by independent researchers. Research studies to date have failed to control for variables such as prior achievement.

The pieces of this research puzzle are scattered around, but remain to be put together. Much of the existing literature is based on poorly designed studies that lack adequate controls.

Purpose of the Study

The purpose of the proposed study was to describe the relationship between the use of the Accelerated Reader Program, a computerized reading management program marketed by Advantage Learning Systems, Inc., and students' attitudes towards reading, specifically between high achieving and low achieving students using the Accelerated Reader Program. In addition, this study aims to describe the difference in reading

achievement between students using the Accelerated Reader Program and those who do not use the program.

Research Questions

Given the purpose of this study, the following research questions were addressed:

1. Is there a difference in attitude towards reading between students who use Accelerated Reader and those who don't?
2. Is there a difference in attitude towards reading between high achieving and low achieving students using Accelerated Reader?
3. Is there a difference in reading achievement between students using the Accelerated Reader program and those that do not?

Limitations

Due to the overwhelming use of the Accelerated Reader Program in the Central Texas area, it was difficult to locate a control group for this study. As a result, one of the limitations of this study was the limited number of participants.

Another limitation of the study was teacher certification; all of the teachers at Public School A hold a valid teaching certificate in the state of Texas. However, only 91.3 percent of the teachers at Private School A hold a valid teaching certificate.

Additionally, the demographic differences between the campuses may have had an influence on the outcome of the test results. Public School A was made up of a more ethnically diverse population than Private School A.

Similarly, the amount of economically disadvantaged students at each campus may have impacted the results, specifically the data on attitude towards reading. The

population at Public School A was 57.7 percent economically disadvantaged students while the enrollment at Private School A was made up of only 10.5 percent economically disadvantaged students.

Definition of Terms

During the course of this investigation, the following terms were employed:

Attitude: A mental position, a feeling or emotion toward a fact or state.

Accelerated Reader Program (AR): A computerized reading management program by Advantage Learning Systems, Inc. The system is used for testing and record-keeping. It is the goal of the program to motivate students to read. After reading a book, students take a computerized test which is designed to measure reading comprehension of the reading material. Points are earned by the student based on text difficulty and the number of correct responses.

Corrective Reading Program: Instruction given by the regular classroom teacher during the school day to children who are not severely disabled in reading.

High Achieving Reading Students: Students in the top quartile on a reading achievement test as measured by the Gates-MacGinitie Reading Test.

Independent Reading: Reading done independently by a student from a self-selected text.

Independent Reading Level: The level at which a child can read without teacher assistance.

Instructional Reading Level: The level at which a child can read with teacher assistance.

Low Achieving Reading Students: Students in the bottom quartile on a reading achievement test as measured by the Gates-MacGinitie Reading Test.

Reading: The process of constructing meaning from written text.

Reading Comprehension: The ability to understand and interpret written text.

Reading Motivation: The desire that drives one to read.

Remedial Reading Program: Any instruction provided by a special reading teacher during the school day to children who are reading below grade level.

CHAPTER TWO

Review of the Literature

Introduction

The purpose of this chapter is to review the research that has been conducted concerning reading instruction, attitudes toward reading, reading assessment, major reading initiatives in the United States and Texas. Specifically, this chapter will focus on the literature that relates to the Accelerated Reader Program and the impact it has on student reading achievement as well as student interest in reading.

During the elementary school years, instruction focuses on developing reading skills. Phonemic awareness is taught as well as constructing meaning from groups of words. These skills are ultimately combined to gain comprehension of a reading passage. Once students enter secondary school, the curriculum tends to be departmentalized by subject area. As a result, instruction is often segmented. While some students learn reading skills in a reading class, there is not always a connection to reading in other content areas such as history, science, or math.

How Children Learn to Read: Early Reading Instruction

Children enter school with a wide variety of literacy experiences. These experiences range from environments rich with writing and reading experiences to those experiences that provide little or no interaction with print. This gap makes the job of the teacher all the more difficult. However, there are several best practices that promote literacy during early reading instruction. Classrooms that are literacy-enriched promote reading and writing as the way in which information is communicated in our daily lives.

Skills and strategies are taught as children are engaged in meaningful activities relevant to their lives.

When children spend time in a print-rich environment, they are stimulated to use literacy. Children learn from this early stage how to interact with printed material whether it is a book, a bulletin board, a writing center, or environmental signs. A print-rich learning environment communicates to children the importance of literacy as an integral part of our lives. However, it is essential that the children not only observe written print, but have ample time to interact with the text (Neuman and Roskos, 1998).

This means that children are driven to learn language and literacy simply because it is functional. At the center of the curriculum, the children should be provided with investigations and activities that are real topics and events that portray real life experiences. While working on these activities children use skills that include talking, drawing, and writing (Strickland and Morrow, 1989).

According to Neuman and Roskos (1998), listening to stories and discussing them as a group is vital to early literacy development. They believe that it is essential for children to be exposed to a variety of texts that include but are not limited to stories, predictable texts, and concept books. During the reading of the text, the teacher should use her voice to convey meaning. Following the story, the teacher encourages the children to respond to the story in a variety of ways that include reenacting or retelling the story, group discussion, or illustrating the story. However, students should not only hear the stories, but have access to the books themselves.

Cantrell (1999) states that effective literacy programs are primarily meaning centered. In other words, reading instruction is centered around children's literature rather than isolated skills. Reading skills are indeed part of the instruction, but are taught

in the context of meaningful reading experiences. Students are also engaged regularly in a variety of writing experiences including open-ended writing, journal writing, and creative writing. In addition, Cantrell found that effective comprehensive literacy programs also utilized some teaching strategies not usually associated with meaning-centered instruction like memorizing spelling and vocabulary words and language mechanics. While these activities in themselves are not meaning-centered, including the spelling and vocabulary words in the students' writing in which proper language mechanics are applied does make the acquired knowledge itself meaningful.

Morrow, et al. (1999) found that balanced literacy instruction occurred when children were exposed to direct instruction for skill development associated with traditional literacy instruction and as well participating in experiences that encourage collaboration and problem solving which is often associated with an integrated language arts approach. Developing skills to be taught in context of authentic children's literature and integrated into writing within the content areas is essential. These skills provide a strong foundation, which ultimately leads to the consolidation and elaboration of skills.

How Children Learn to Read: Intermediate Reading Instruction

As students enter the intermediate grades, there is still a need for a developmental component in the reading program. While there may not be an overwhelming need for learning the process of basic reading, there are still developmental concerns. As educators, our focus must shift to promoting critical reading skills. The instruction of critical reading skills such as inference, drawing conclusions, prediction, and contextual reading should never completely disappear from the reading program regardless of the

grade level. It is this component that refines the skills that the students acquired earlier in their reading instruction (Dupuis, et al., 1989).

According to Dupuis, et al. (1989), content reading becomes the focus for most reading programs beginning in the fourth grade and continues through the secondary schools. It is the application of the developmental reading skills acquired during the primary grades that allows the reader to gain information (p. 325).

It is essential for an intermediate reading program to contain curriculum that addresses the understanding of expository text. The functional component occurs when the reading program is integrated with subject matter and the students are instructed in strategies for understanding nonfiction reading material. Lamb and Arnold (1988) believe that the functional component of a reading program “receives too little emphasis in the intermediate and secondary schools. Teachers erroneously assume that their pupils can read and understand expository text material without instruction (p. 186).”

Vocabulary instruction is an integral part of an intermediate reading program. By having a vocabulary component in the reading program, it enables the students to acquire new information by having access to key terms and concepts. “Vocabulary instruction that is geared to the active process of learning and connects new information to previously learned experiences provides the means for students to make the connection between new words and their past experiences (Rupley, Logan, & Nichols, p. 336-346).”

Lapp and Flood (1992) point out that a continuous process of evaluation is crucial to the success of a reading program. This evaluation should embrace the feedback of both the teacher and the student. Student feedback is essential to the vitality of the program, as they are the primary users and beneficiaries. We cannot simply embrace a

program because it has been institutionalized if it is not meeting the needs of the students (p. 638).

Phonics

Routman and Butler (1998) define phonics as the sound-letter relationship used in teaching reading and writing. While phonics skills are an integral part of the reading process, it must be subordinate to semantics. It is not enough for students to decode the word through the use of phonics, but they must also be able to decode the meaning of the word through context and prior knowledge. Phonics instruction is necessary, but must not become an end in itself. Routman and Butler believe that phonics is best taught when integrated into meaningful reading and writing experiences in all content areas.

Moustafa and Maldonado-Colon (1999) state that by capitalizing on what emergent readers already know, a teacher can help them know more. In other words, by tapping into the knowledge that children already have of language and their ability to recognize words holistically, they can be taught to recognize a large body of written words when encountered in shared reading and predictable texts. They are then taught the letter-sound correspondence using sounds they know in words that they can recognize. This is referred to as whole-to-parts phonics. This type of phonics instruction addresses both ends of the reading instruction spectrum. Children are taught the letter-sound system necessary for decoding words, but the teaching comes within the context of literature providing a venue for the students to construct meaning from the written text.

According to Allington (1980, 1983), when struggling readers are given extensive phonics instruction that is not in context of authentic literature, they do not become better readers. In addition, early readers have consistently shown that they read words in the

context of a story better than they do out of context (Stanovich, 1991, Nicholson, 1991). This supports the idea that phonics is best taught whole-to-part or through meaning centered instruction.

Strategies for Teaching Reading Comprehension

According to Flood (1984), reading comprehension is a constructive process in which the reader gains understanding through using the text as a model to create a parallel image in the mind. It is also interactive in that it requires both the analysis of text structure and the examination of preexisting memory structure (p. vii).

According to Tierney and Pearson (1985), reading comprehension is not simply the ability to regurgitate print. When students read for meaning, they bring their background knowledge and experiences with them. This prior knowledge has an overriding influence on the understanding of the text. In addition, the students' motivation for reading will also impact their understanding of the text. Tierney and Pearson suggest several strategies to use when teaching reading and literacy that positively impact reading comprehension.

1. *Assess the students' prior knowledge of the topic or text genre.* This is an integral part of teaching reading comprehension and skills. It is during this part of the instructional time that the teacher can have the students predict what might be discussed in the text, what they think might happen, as well as predicting what conclusion they might expect the author to reach.
2. *Encourage the students to consider the purpose and audience the author is targeting.* In other words, the students are considering the writers' intentions when discerning the meaning of the text. This is especially crucial when the students are interacting with persuasive writing and text.
3. *Encourage students to reread the text.* Students should reread the text several times, each for a different purpose. For example, during the first reading a student might read to get a feel for the text. The second reading might be for the purpose of gathering specific information. Another reading might be focused on appreciating the genre or style of writing. Multiple readings of a

text for a variety of purposes encourages the students to interact with the text and be flexible in their approach to reading depending on the purpose. Rereading encourages thoughtful interaction with the text and takes into account changing goals.

4. *Encourage students to map out the story.* By developing a timeline for the story, students are able to see the story not just as a series of events, but as events that are linked logically.
5. *Provide opportunities for the students to develop links between what they read and what they write.* The teacher should not only give the students an opportunity to retell the story they have read in their own words through writing, but they should be encouraged to create their own stories using ideas and writing styles they have encountered in their own reading. This is a prime opportunity to discuss organization in writing as students create their own story map to outline the story by organizing paragraphs with main ideas and details as well as experimenting with mood, descriptive words, and figurative language to create a more vivid image for the reader.

The use of well-planned questions by the teacher is essential in promoting reading comprehension. Pearson and Johnson (1978) believe that questions used to guide reading comprehension should be based on the information readers need to answer these questions. It is the responsibility of the teacher to help students become aware of possible sources of information necessary to respond to questions.

In discussing post-reading questions, Dupuis, et al. (1989) believe that “some of the questions should be convergent (both literal and inferential), while others would be divergent (evaluative level). This is a good time to monitor how well students think critically. If they are writing answers, the teacher can use the results to diagnose poor comprehension (p. 247).” Forgan and Mangrum (1989) state:

An inventory of all the questions subject area teachers ask could be used to demonstrate the comprehension behaviors required for success in content areas. Questions could be classified into a few basic types, and the types could probably be arranged in a hierarchy from simple recognition and recall questions to difficult and complex evaluation questions. Subject area teachers could use the classification scheme for developing reading questions and to illustrate for students the types of reading comprehension behaviors they will need in various subject areas.

Organizing questions in a hierarchy is one strategy for improving reading comprehension in the content areas. Students will be successful when responding to certain types of questions when they are able to recognize the connection or relationship between the question and the answer.

According to Alvermann and Phelps (1994), “Questioning is most effective when it is planned in advance. Teachers who develop a core of questions can target specific information or concepts and can encourage different kinds of thinking. It is easier to plan and ask effective questions if a teacher has some way to conceptualize or categorize questions (p. 155).”

Vacca and Vacca (1989) address one strategy for guiding students to successful comprehension of a reading passage. This strategy is called Question-Answer Relationship. They state that “the QAR strategy teaches students (1) the three-way relationship that exists among question-text-reader’s knowledge, and (2) three specific learning strategies to find information they need to know to comprehend at different levels of response (p. 157).”

There are three levels of questioning in the QAR strategy. The first level of questioning is referred to as textually explicit questions. These questions are very literal and the answer can be found almost word for word in the text. The questions usually have only one correct answer: When was the war of 1812? Who is buried in Grant’s tomb? This type of factual questioning has its place, but it is often overused in the content area classroom (Alvermann & Phelps, p. 155).

The second level of questioning is called textually implicit questions. These questions are interpretive in nature and lead to “think and search” responses. The answer

to this type of question is in the text, but the words used in the question and those used for an answer would not be the same sentence. This type of questioning requires the reader to think about what the author is saying (Richardson & Morgan, p. 218-222).

The final level of questioning is schema-based questioning. This type of questioning is at an applied level. It is at this level that students must draw from their own background knowledge and prior experiences. The text is simply a springboard for thought at this level (Vacca & Vacca, p. 157-160).

Procedures related to learning QAR may be taught by the reading teacher and used by the content area teachers at the secondary level. According to Richardson and Morgan (1990), the reading teacher should first introduce QAR with visual aids to show the question-answer relationship. After introducing QAR, teachers should demonstrate the application of QAR in a short reading passage. In demonstrating the use of QAR, the teacher should provide, label, and answer at least one question at each level. Eventually, the students should be able to answer questions and determine the QAR on their own (p. 218). Research conducted by Raphael (1984; 1986) shows that when QAR is introduced and practiced with students for at least eight weeks, reading comprehension improves.

Students also need to acquire skills for decoding and using the information in the content area texts and lectures. Forgan and Mangrum (1989) state:

To read a textbook, your students need study skills and a study strategy. In fact, in a number of content area textual materials, they need many study skills and strategies. Study skills are necessary for locating, organizing and interpreting information; study strategies are plans for reading textual materials that help the reader comprehend and retain more of the information while adjusting rate and style of reading according to its purposes (p. 149).

One system of study is Survey, Question, Read, Recite, Review or SQ3R. This system of study is a natural outflow of previewing and skimming. This strategy is based

on the premise that the strategy “compensates for any deficiencies in our information-processing system through the use of a highly structured study and memory technique (Richardson & Morgan, p. 288-290).”

The steps for SQ3R are as follows:

1. Survey - The text is previewed for the purpose of organizing information.
2. Question - Questions are developed by the reader with the expectation of finding the answers in the text.
3. Read - The reader tries to answer the questions created in the questioning phase.
4. Recite - The reader deliberately answers the questions orally.
5. Review - The reader verifies answers to the questions by rereading portions of the text.

SQ3R was originally intended for college-level students. Because of the number of steps to be followed, middle school students often become frustrated with the strategy. This frustration comes from teaching students the memorized steps of a study strategy without addressing how to apply it to life. Vacca and Vacca (1989) believe that “the key to any system’s effectiveness may very well lie in how students learn to control it through selective and personal use. A system for studying evolves gradually within each learner (p. 227).”

Reading comprehension can also be improved through writing annotations. A strategy called REAP enhances reading comprehension by allowing the reader to write a retelling of the text into a summarized version (Depuis, et al., p. 108). This four step strategy enhances reading and understanding. The first step is to read the text. Second, the reader will encode the text into their language. Next, an annotation is made by

writing the message down. Finally, the reader ponders the message on his own and with others. Alvermann and Phelps (1994) state that “skilled readers make many different kinds of annotations. Sometimes they jot down a critical comment, a question, a note on the author’s intentions, or, perhaps, a personal reaction (p. 178).”

Outlining is one way to help students understand how reading material is organized. The understanding of the organization facilitates comprehension. Outlining provides a graphic means for students to visualize the organization of text. They show the connections between the main ideas, supporting details, and terms used in the reading passage.

One form of pre-outlining is highlighting. This is a skill that must be modeled by the teacher to demonstrate the difference between highlighting every detail and selecting the most relevant material. It should be pointed out that when highlighting, less is often more (Richardson and Morgan, p. 291).

Dupuis, et al. (1989) suggest “one way of teaching outlining is through the use of partial outlines. In this technique, the teacher provides the outline’s format and fills in several items. Students can see the structure and fill in the remaining blanks. This partial structure should gradually lead students to provide complete outlines of their own (p. 249).”

In order for students to gain the most understanding of textual materials, they must be armed with many strategies for organizing, decoding, and retaining the information covered. There are many methods that are appropriate for secondary students to use to increase comprehension. No one method works exclusively. A direct correlation exists between the efficacy of the method and the appropriateness of the strategy for the particular activity at hand. We must help students acquire a vast

repertoire of study strategies, and help them develop the skills needed to discern when to use these different reading strategies to maximize their learning time.

Assessing Reading Achievement

There are many ways to assess students' reading comprehension abilities on a large group and individual basis. Some of these methods of assessment are inherent to good teaching practices, especially informal assessment techniques. Vacca & Vacca (1989) stated, "Evaluation is a continuous process which makes use of multiple methods of gathering relevant data for instructional purposes (p. 27)." This discussion will focus on classroom assessment strategies, both formal and informal, that are designed for whole groups.

According to Alvermann and Phelps (1994), good assessment has distinct characteristics:

1. Includes multiple sources of information.
2. Provides information that is useful to both teachers and students.
3. Gives students the chance to show their individual strengths.
4. Contains elements of student self-assessment.

Very few published informal assessments for large groups have been constructed. However, a content area teacher can create informal measures of students' reading and study skills. Although this process is time-consuming, the information gained can be very useful to the teacher. It is best if a reading specialist is consulted in creating these assessments. Textbook companies are beginning to include inventories of study skills to address the need for informal assessment (Richardson & Morgan, 1990).

An individually administered reading inventory is used to test students' word recognition strategies and comprehension. The Group Reading Inventory (GRI) is similar to the Individual Reading Inventory (IRI) administered at the elementary level, in that it helps to determine at what level directed reading instruction should begin. The data from this informal measure should be used as an indicator of the students' ability to comprehend the concepts and vocabulary of the material used in the content area classroom. However, rather than an individual administration as required for the IRI, the GRI is administered to multiple students simultaneously.

According to Dupuis, et al., "The informal group reading inventory has proved to be a useful diagnostic tool in content area reading. It yields information about a student's general reading ability and his/her proficiency in those specific skills needed to read the materials in any content area (p. 171)."

Criterion-referenced tests are tied to the local curriculum. In opposition to the norm-referenced test, CRTs focus on a limited number of learning tasks and devote a large number of test items to each task. The scores on criterion-referenced tests are often reported as percentages obtained in each sub-skill along with an indication of what is considered mastery. These types of formal assessments are often given in large group settings and are particularly useful in mastery or outcome-based learning programs. The purpose of the criterion-referenced test is to "emphasize description of what a student has and has not learned within the local curriculum (Dupuis, et al., p. 170)."

Most methods of assessment administered to large groups are formal. These measures are generally developed by publishers and given at the beginning and/or the end of the school year. The tests use multiple-choice questions and are administered to

groups at one setting. Standardized reading achievement tests are designed to measure the levels of current attainment.

The usefulness of norm-referenced standardized testing is that it enables educators to compare the performance of one group with students in other schools and classrooms. It allows teachers to measure the range of reading ability in a class and better select appropriate materials for reading in the classroom. Furthermore, it facilitates the identification of students who need further diagnosis. The feedback from standardized testing often comes in detailed reports that include printouts of subtest scores, summaries of high and low areas of performance, percentiles, norms, and stanines (Vacca & Vacca, 1989).

The function of the norm-referenced test is to make comparisons, so they are carefully standardized. They cover a broad domain of learning tasks by measuring each specific task with a few questions. Performance on norm-referenced tests is often reported as grade equivalents or percentiles (Dupuis, et al., 1989).

One such norm-referenced standardized test is the Gates-MacGinitie Reading Test. This test, published by Riverside Publishing Company, is standardized and measures achievement in reading from the end of Kindergarten through Grade 12. Each level test consists of two subtests--a vocabulary test and a comprehension test. The reading passages include a balance of different genres of writing. The vocabulary words are drawn from authoritative lists and include the different parts of speech. Scores for the Gates-MacGinitie Reading Tests are available for the vocabulary test, the comprehension test, and the total score. Scores for each test and the total score may be reported as percentile ranks, national stanines, normal curve equivalents, extended scale scores, and grade equivalents (Goodman, 1998).

Diverse Reading Ability in the Classroom

While the average reader benefits from the previously mentioned instructional strategies, meeting the needs of a classroom of students with varying abilities is a difficult task for every teacher. While all students may benefit from independent reading, other reading needs must be addressed in order for each student to receive the maximum benefit from the reading program.

According to Levande (1993), above average readers are often able to “perceive relationships, solve problems, demonstrate observational skills, and grasp abstract ideas easily.” Reading programs for gifted readers should take into account their abilities and challenge their individual gifts. These programs should emphasize cognitive thought at an advanced level through critical reading and productive and imaginative thinking.

A study using think-aloud, reading-aloud, and verbalizing-thought protocols, during the reading process, was conducted by Fehrenbach (1991). The research determined that able readers utilized six strategies more frequently than average readers. These strategies included: rereading, inferring, analyzing structure, watching or predicting, evaluating, and relating to content area.

Dooley (1993) proposes that stimulating programs for able readers are marked by a differentiated curriculum. One way to do this is to modify the process of exploring content. These modifications are made by utilizing questions and activities that draw on higher levels of thought. The unique needs of the able reader require a greater emphasis on content appropriate critical and creative thinking skills.

There are two venues available for meeting the needs of able readers in the mainstream classroom. The first tier involves compacting and accelerating reading instruction by placing able students into a well-balanced program on their instructional

level. Secondly, a teacher may provide reading enrichment for able readers. This would provide students with activities designed to help them look more deeply at grade level reading material. Whichever avenue is taken, it is essential that able readers participate in a reading program that places a greater emphasis on thinking skills. These students generally learn material at a faster pace than other students. As a result, it is not necessary for the teacher to provide multiple drill exercises. In order to have their intellectual needs met and be mentally challenged, require a reading program which is individualized and exposes the reader to a vast amount of literature of various genres. For intellectual stimulation and growth to occur, it is important for the able reader to be challenged on a higher cognitive level (Heilman, Blair, and Rupley, 1990).

On the other end of the spectrum are students struggling to make sense out of printed text. These students often show signs of emotional distress or lack of interest towards reading due to their inefficiencies.

McGinnis and Smith (1982) report that one of the key objectives in providing remedial reading assistance is motivation. The drive in the student to improve their reading must be stirred and hope that they can improve kindled. The struggling reader must take an active part in the diagnosis of their reading problems, the derivation of the treatment, and the evaluation of the progress made.

Dechant (1982) suggests that in a reading program designed for a slow learner, a large amount of time should be dedicated to teaching phonetic, structural analysis, and the mastery of simple comprehension skills. It would seem that these learners have little use for rapid reading skills and will more than likely not read many different materials. Reading for slow learners should be functional in nature.

According to Miller (1971), a corrective and remedial reading program is one based on developmental teaching. It should be delivered on a child's instructional or independent reading level. The instruction should always be presented with consideration given to the student's preferred learning modality as well as the diagnosed reading difficulties. The instruction, though directed at the reading difficulties, must build upon the student's strength.

Alexander and Heathington (1988) indicated that it is beneficial for corrective and remedial readers have access to reading materials that interest them. Interesting reading material is a motivator, and students may give special interest to a topic that is of interest to them. In addition, teachers of corrective and remedial reading students should administer some form of an interest inventory to determine student interest.

Reading Instruction and the At-risk Student

In reviewing the literature, there is one thing that is clear when dealing with at-risk reading students. The best intervention by far is early intervention.

According to Pikulski (1994), provide intervention for at-risk readers as early as possible is essential in primary reading instruction. He states, "A growing case can be made that treatment is most effective if it comes early in a child's school career--in first grade or perhaps even before; however, some students will need additional, intense support beyond first grade (p. 35)." Based on this recommendation, intervention for at-risk students is an essential element for an intermediate level reading program.

Early intervention refers to programs designed for young children. The idea behind early intervention is that by intervening in the learning process early in a child's school experience, reading and school failure can often be avoided. Although programs

for the prevention of reading problems are often expensive upon first glance, in reality they often prove very cost effective in the long run. By intervening early, remedial efforts, which include pull out programs, retaining students, and special education programs, all of which are quite costly, are less likely to be necessary for many students (Pikulski, 1994).

Pikulski (1994) reviewed programs of early intervention for the prevention of reading problems. Two of the programs reviewed were Success for All and Reading Recovery. Success for All is a school-wide program for kindergarten through third grade. The program involves multiage grouping of students based on reading level for a whole group, direct reading instruction lesson for 90 minutes daily. These lessons are supplemented with individual tutoring lessons for students who continue to fall behind. On the other hand, Reading Recovery is an individual tutoring program in which the teacher meets the student for 30 minutes a day apart from regular classroom instruction in a pull out type program. The student orally reads familiar stories as well as a new story of which the teacher keeps a running record based on the oral reading. The session always includes working with letters. In addition, the child dictates a story to the teacher who records and then reads the story back to the student with the goal being to eventually have the student be able to rewrite the story on their own.

Pikulski praises Success for All as it provides quality instruction for at-risk students in the regular classroom. However, both programs devote the extra time to reading instruction that is necessary for at-risk reading students to be successful.

On the other hand, Allington (1977) asserts that the primary focus of much remedial reading instruction has become isolated skills instruction rather than time actually reading. He argues that in a quest to present learning to read in a series of small

steps through a barrage of a variety of skills, at-risk children are not being exposed to and interacting with written text. Allington suggests other strategies to immerse the at-risk reading student in text. These include unison reading with the teacher, which provides students an experience in reading in context. Another strategy is multiple readings of a passage while focusing on the accuracy of word identification, which ultimately leads to increased reading fluency. A third strategy Allington suggests is sustained silent reading as it provides additional opportunities for reading experiences.

Attitudes

According to Webster (1985), an attitude is a mental position, a feeling or emotion toward a fact or state. Attitudes toward reading are important as they may affect how well a person reads and to what extent they find intrinsic value in the reading process. Because attitude influences a person's motivation, it is always a positive factor when the teacher can evaluate and analyze the attitudes and subsequently understand the motivation of students.

Devine (1989) believed that motivation is a key factor in student comprehension of written text. The reader must want to comprehend. When students are motivated, they pay attention to the text and the message that it is sending in order to construct meaning. The literature that is being read is a key factor in motivating the reader. Students give attention to passages that interest them or when they are given a definite purpose.

The attitudes of students were strongly influenced by curriculum factors (Estes and Vaughan, 1978). That is to say, what is taught, how it is taught, and what strategies and materials are used to teach it has a profound effect on the attitude of the learner. What is taught in a reading class should relate in some way to the students' present or

future needs as well as taking into account the interests of students and their abilities. If the students associate a good feeling with what they are learning, they will be more likely to continue to learn. However, if the learning triggers negative feelings, the students will tend to avoid continued learning in this area. Anderson, Fielding, and Wilson (1988) claim that children who view reading positively tend to read more frequently, for greater amounts of time, and with more intensity. As a result of the more frequent and intense interaction with written text, reading achievement is positively affected.

Batten (1989) believes that attitudes and motivation cannot be imparted to students because attitude and motivation are intrinsic as they fulfill the basic needs for security, opportunity, belonging, and significance. However, the teacher can create an atmosphere in which this self-motivation is generated. According to Hackman and Oldham (1976), in order for the students to achieve desirable work outcomes, they must see the meaningfulness in the task, share a sense of responsibility, and have share in the knowledge of the results and outcomes of the task.

Palmer and Codling (1994) investigated what influences reading motivation among students of all reading proficiencies. They determined through their interviews that the attitude and motivation of students, regardless of their reading skill, were affected directly by their prior experiences with books, social interactions with books, their access to books, and their book selections.

Assessing Attitudes Toward Reading

Assessing the attitude of students toward reading has always been a difficult task for teachers as attitude and ultimately motivation are internally intrinsic. As a result, Epstein (1980) points out that it is difficult to establish validity of attitude measures.

There are several factors that may influence test validity. One of the main factors that would affect validity is that some subjects may have a lack of self-awareness toward the attitude domain. It is possible that all of the subjects do not possess the degree of introspection necessary to respond with accurate and relevant answers. He also points out that when reading attitudes are measured, the researcher might reasonably expect variations in measurement results. This may be attributed to the fact that the attitude held by the student is unstable. Attitude measures provide estimates of reliability that are typically lower than the reliability of ability and general knowledge tests because attitudes are more flexible and subject to change.

One method of assessing student attitudes toward reading is the Heathington Attitude Scale (intermediate version) (McGinnis & Smith, 1982). This scale was developed in 1975 by Betty Heathington to measure the attitudes of children towards reading. The primary scale was developed for students in grades one through three, and the intermediate scale is used for students in grades four through six (Barton, 1989). The students are asked to respond to a survey that incorporates a series of 24 statements depicting how they feel about reading. A score of 5 is given for a very positive response and a 1 for a very negative response. The range of possible scores is 120 (5 X 24) to 24 (1 X 24) (Heathington, 1975). The Heathington Attitude Scale is a Likert scale, or summated rating and gives feedback about school-related reading activities such as free reading and organized reading, reading at the library, reading at home, other recreational reading, and general reading. Because attitudes cannot be seen, a self-report method is the most direct and frequently used method of assessing attitudes (Epstein, 1980).

Recreational Reading

A good reading program will include a recreational reading component. Lamb and Arnold (1988) define this as “those portions of the reading curriculum that promote enjoyment and pleasure in reading both narrative and expository text.” The benefit of including such a component in an intermediate reading program is that it fosters interest in reading as well as developing positive attitudes and habits that will last a lifetime (p. 186).

Kunz (1999) states that reading easier material is more cognitively stimulating than reading harder material. When children are comfortable with the material, they can focus on the skills and meaning presented in the lesson. However, if the material is difficult to read, the students are consumed with trying to decode the actual words rather than the semantics of the text.

Turner (1992) suggests that when students read for enjoyment as well as for gaining information, they show gains in literacy. Furthermore, there is a relationship between the amount of time a student spends on recreational reading and positive gains in reading ability, vocabulary development, and reading comprehension.

Reform in Reading Instruction

In 1981, Secretary of Education H. T. Bell created the National Commission on Excellence in Education, which was charged with the duty of examining the quality of education in the United States. In 1983, the Commission released its report entitled *A Nation at Risk*. The findings of the Commission concluded that the students turned out by the United States educational system were far less prepared than their counterparts in other countries because the content of education in the United States was lacking, the

expectations of American students is too low, time spent in the classroom is too little and/or ineffective, and that the academically able students are not being drawn into the field of teaching which has resulted in a shortage of highly qualified teachers.

To remedy these risk factors, the Commissions made the following recommendations U.S. Department of Education, 1983):

1. High school graduation requirements need to be strengthened and students should be required to complete 4 years of English, 3 years of mathematics, 3 years of science, 3 years of social studies, and at least half of a year of computer science. Two years of a foreign language was also recommended.
2. Standards and expectations should be raised as schools, colleges, and universities adopt more rigorous and measurable standards through “challenging materials in an environment that supports learning and authentic achievement.”
3. Significantly more time to be devoted to the teaching of basics through either a lengthened school day, a longer school year, or more effective use of the current school day.
4. Improve teacher preparation programs and make teaching a more rewarded and respected field in order to attract and retain highly qualified professional educators.

During the 1980s, problems in education as a whole became nationwide epidemics. As a response to the need for overall education reform a break-through education reform plan known as America 2000 was introduced by President George Bush and Secretary of State Lamar Alexander in the early 1990s. America 2000 was a proposed national strategy, not a federal program that called for higher standards, reform

in the way children are taught, and the implementation of national testing. America 2000 was met with much criticism. One of the arguments put forth by critics of America 2000 was that public education was becoming too politicized. The federal government was becoming too involved only contributing less than 8% of the funding provided to elementary and secondary schools (Doyle, 1991). The plan called for new national standards supported by curriculum guides and learning materials and evaluated through the implementation of standardized tests created to correlate with the national curriculum (Clinchy, 1991).

In 1994, President Clinton signed the Goals 2000: Educate America Act into law. The legislation provides for “improving student learning through a long-term, broad-based effort to promote coherent and coordinated improvements in the system of education throughout the nation at the state and local levels” (Goals 2000: Educate America Act, Title III, Sec. 302). Goals 2000 provides resources and direction as it supports state efforts to develop clear and rigorous standards for what every child should be able to do. As state and local educational systems embrace Goals 2000 and take advantage of federal grants associated with the legislation, education has been reformed once again.

The Congress declared that by the year 2000, the National Education Goals should be met:

1. All children in America will start school ready to learn.
2. The high school graduation rate will increase to at least 90 percent.
3. All students leaving grades 4, 8, and 12 will demonstrate competency in challenging subject matter. In addition, students will be prepared to be a responsible citizen and productive member of the society.

4. Teachers will have access to programs for professional development needed to acquire skills to instruct and prepare students for the next century.
5. United States students will be first in the world in math and science achievement.
6. Every adult American will be literate.
7. Every school in America will be safe, disciplined, and free of alcohol and drugs.
8. Every school will promote parental involvement in promoting the social, emotional, and academic growth of children.

As a result, reading reform programs have been introduced at the state level. In 1995, in direct response to Goals 2000, the Texas Legislature passed a new education law known as Senate Bill 1. This law established curriculum guidelines for Texas schools and created a system for holding districts accountable for them. The legislation called for the Texas Education Agency (TEA) to revise and expand the curriculum guidelines in kindergarten through grade 12. In response to this piece of legislation, the Texas Commissioner of Education, Mike Moses, assembled representatives from across the state to define good reading practices. In short, the committee reached three overall conclusions about what makes good reading instruction. They concluded that for reading instruction to be balanced, students must be taught how to use the structure of language and how to construct meaning from text. For implementation of the guidelines to be effective, quality teacher preparation and continuous professional development are necessary. It was also noted that it was not only the school that was integral in supporting literacy and providing balanced reading instruction, but the home and the community played crucial roles as well (Denton, 1997).

Out of Senate Bill 1, the Texas Reading Initiative was born. This plan addressed the goal set forth by then Governor George W. Bush. The goal was for all students to read on grade level or higher by the end of the third grade. In order for the state to prove accountability, stricter interpretations of the state testing requirements were implemented. Currently, students in the state of Texas are required to take the Texas Assessment of Knowledge and Skills (TAKS) test in reading and math at the end of each year beginning in the third grade. According to Denton (1997), the Texas Reading Initiative aimed to increase awareness of students' reading skills, promoted reading programs, and supported intensive statewide reading skills programs, and showcase model reading programs in Texas schools which have shown success in developing the reading skills of students. Since the initiative was put forth, the Texas Education Agency has worked in collaboration with the Education Service Centers and school districts to advance the goals of the initiative by focusing efforts on reading instruction and professional development for Texas reading teachers (TEA, 1997).

In 1997, Congress convened a national panel in consultation with the National Institute of Child Health Development (NICHD) and the Secretary of Education to assess the various approaches of teaching children to read based on research-knowledge. As a result, the National Reading Panel was formed. The panel was comprised of fourteen leading researchers in reading education. The panel submitted their report to Congress in 1999.

Two of the key findings that came from the report by the National Reading Panel (2000) dealt with fluency and reading comprehension. The Panel found that fluency, or the ability to accurately read with expression and speed, is often neglected in most classrooms throughout the nation despite the fact that it is critical for good reading

comprehension. In other words, it is difficult for a child to understand the text that they have read if the reading of the text is long and laborious. The child has difficulty remembering what has been read and therefore has difficulty connecting the ideas in the text to their background knowledge. The panel determined that while guided repeated oral reading procedures led by teachers, peers, or parents had a positive impact on reading fluency, they were unable to find “a positive relationship between programs and instruction that encouraged large amounts of independent reading and improvements in reading achievement, including fluency (p. 13). The National Reading Panel (NRP) examined studies that looked at the impact of Accelerated Reader on reading fluency. However, the studies could not be analyzed due to serious methodological or reporting flaws that call the validity of the results into question. The Panel felt that a meta-analysis would be misleading in light of the limited data set (p. 24). However, the NRP did state that current literature in reading education does support the idea that engaging in a variety of independent, silent reading activities does increase reading achievement. The studies reviewed by the National Reading Panel concluded that independent, silent reading alone was not the direct cause of increased reading achievement, rather that better readers choose to read more.

The panel also suggested that reading comprehension is directly impacted by vocabulary instruction. They found that the use of computers to assist in vocabulary instruction was more effective than traditional methods. Additionally, the panel found evidence suggesting that by teaching a variety of reading comprehension techniques, there was a positive effect on reading comprehension, because students are taught specific cognitive strategies for decoding and bring meaning to the text (p. 14).

The findings of the National Reading Panel are not without their critics. Several of these criticisms were published in the *Phi Delta Kappan*. Although this is not a peer-reviewed journal, it is widely read among the education community. Garan (2001) criticizes the panel's findings based on the fact the report involved "a limited number of studies of a narrow population." Krashen (2001) continued this line of thought when he stated that the findings of the National Reading Panel were skewed because several relevant studies were omitted or misinterpreted. These criticisms of the report published by the National Reading Panel have called into question the findings and recommendations of the NRP.

In January of 2002, President George W. Bush proposed the No Child Left Behind Act. The legislation was intended to encourage educational reform based on four principles (U. S. Department of Education, 2002):

1. Stronger accountability for results
2. More freedom for states and communities
3. Encouraging proven education methods
4. More choices for parents

This piece of legislation was monumental in the reform of reading education in the state of Texas. In 2003, the Texas Education Agency was awarded funding under the No Child Left Behind Act through which it implemented the Texas Reading First Initiative (TRFI). TEA is partnering with the Vaughn Gross Center for Reading and Language Arts at the University of Texas in Austin to help carry out the initiative (Texas Reading, 2003).

The TRFI focuses on professional development for reading teachers across the state. In partnership with TEA and Regional Educational Service Centers throughout the

state, The Vaughn Gross Center targets the needs of TRFI schools. The goal is to enhance the knowledge and skills of reading teachers by providing professional development tools for teachers throughout the state. The Center is dedicated to providing leadership to educators in effective reading instruction through a variety of research and professional development projects.

The Accelerated Reader Program

Over the past twenty years, many commercial reading programs have been marketed. One such reading management program that recently has been implemented on many school campuses, is the Accelerated Reader Program (Institute for Academic Excellence, 2000). The Accelerated Reader Program began as a supplemental reading program. This program, introduced by Advantage Learning Systems, Inc. in 1986, is a computerized management system for teachers that facilitates testing and record keeping. It allows the teacher to set reading levels and goals for students. Once the students have read a book, they then take a computerized test which is designed to measure comprehension of the reading material. The test is scored and recorded by the software program. The students' progress can then be monitored by the teacher through the various computerized reports. Advantage Learning Systems, Inc. is part of the Institute for Academic Excellence. Based on text difficulty and the number of correct responses, points are earned by the student. The program was originally designed to "motivate and monitor reading that was supplemental to a teacher's classroom reading program." The institute now believes that "Accelerated Reader is most powerful when it is central to the reading curriculum."

The Accelerated Reader Program and Readability

In the Accelerated Reader Program, students are assigned a reading level based on their performance on the computer based STAR test. Children complete a series of passages in which reading comprehension and vocabulary meaning are assessed by having the children insert the correct word or phrase into a sentence or paragraph. The paragraphs and vocabulary words become more difficult as the test progresses. At the completion of the test, the computer assigns a reading range to the children based on a concept developed by Vygotsky, a child-development psychologist. The idea is that for optimal learning to occur, instruction or practice should take place in a reading zone that is neither too difficult or frustrating nor too easy. This level of reading is referred to as the students' Zone of Proximal Development (Morse, 1999).

In order to determine how difficult a text is to read, educators employ the use of a variety of reading formulas. As a result, after books have been rated according to their difficulty, teachers and librarians can more effectively match students with reading material that they can successfully read at an independent level. That is to say that the student can read and understand the text without assistance from the teacher. When the text becomes too difficult for the student to read and interpret on his own, the student has reached the frustration level. Instructional level is the reading level of text at which the student receives classroom instruction. This level of reading is usually consistent with the grade level of the student. However, some students might have an independent reading level and even a frustration level below that of their current grade placement. As a result, students are not expected to read and understand the instructional level material without assistance (Institute for Academic Excellence, 2000).

Readability formulas have been in use for over 50 years. Although their popularity went out of style, the use of readability formulas is making a come back. In fact, The Accelerated Reader Program has utilized readability formulas for almost 20 years. The most commonly used readability formulas, such as Dale-Chall, Flesch-Kincaid, and Fry, are on a grade-level scale. The formulas are based on semantic and syntactic difficulty. That is to say, semantic difficulty has to do with word length, the familiarity of the words, and the frequency that the words appear. Syntactic difficulty is measured by the number of words that occur in a sentence. The different grade-level readability formulas tend to yield only slight differences. A limitation of the readability formulas is the sampling error. Because it is difficult to analyze an entire text, samples from within the text are used to perform the readability calculations. Because the reading level of books can vary from section to section, it is possible that the results could be flawed as the sampling may not be reflective of the entire book (School Renaissance Institute, 2000).

In 1998, on a quest to improve the reliability and accuracy of calculated readability levels in order to better match students to books, Renaissance Learning took on a development project that yielded the ATOS Readability Formula for Books. It is this grade level scale that is employed by the Accelerated Reader Program when determining the reading level of books. The formula accounts for words per sentence, average grade level of words, characters per word, and book length. In addition, by using high-speed scanners that can analyze entire books, the sampling error mentioned previously is eliminated as the entire book is analyzed, not just selected passages (School Renaissance Institute, 2000).

Once the student has been assigned a reading range, they select a book in their reading range from the Accelerated Reader book list. Any book can be included in the program as long as a reading level and point value have been assigned and a test is in the computer database. The AR formula below is used to calculate the point value of a book:

$$\text{AR points} = (10 + \text{Reading Level}) \times \frac{(\text{Words in Book})}{100,000}$$

After selecting the book, the student reads the book and takes an Accelerated Reader test on the computer. The tests are multiple choice in format and ask the students to recall facts and details from the book. The computer scores and records the test and tabulates the amount of points the student earned for the book. Partial points are awarded based on the percent of questions answered correctly on the test.

The Accelerated Reader program recommends an average number of minutes that a student should read per day. The amount of time ranges according to grade level ranging from kindergarten students being read to for 30 minutes per day to third grade and up reading independently for 60 minutes per day (Institute for Academic Excellence, 2000).

The teacher should meet with the student immediately after the test in order to review the information in the test report. The student and the teacher should discuss the student's progress and adjust the Zone of Proximal Development and/or the length of subsequent books to be read.

The Accelerated Reader Program and Reading Comprehension

According to various reports sponsored by the Institute for Academic Excellence, student reading achievement will improve as a result of using the Accelerated Reader Program in the classroom. Peak and Dewalt (1994) report that the sample group of ninth

graders who participated in Accelerated Reader for the previous five years showed greater gains on the reading scale scores for the California Achievement Test (CAT) than did their counterparts who did not use Accelerated Reader. Phelps (1999) indicated that students in one Texas school district showed a growth rate of 12.3% in reading on the Texas Assessment of Academic Skills over a four-year period.

Another study reported by the Institute for Academic Excellence indicated that there was a correlation between the use of computerized reading systems, such as Accelerated Reader and the mean gains on CAT (Children Assistance Trust) reading scores over a five-year period (Peak & Dewalt, 1993). The study also pointed out that the faculty and staff involved were enthusiastic over the program and questioned whether it was this excitement that spurred the students on to greater reading achievement or the program itself.

On the other hand, a yearlong study, independent of the Institute for Academic Excellence, was conducted to determine the effect that the Accelerated Reader program had on reading comprehension (Mathis, 1996). The results of this study did not support the hypothesis that reading comprehension would significantly increase due to the use of the Accelerated Reader Program.

McMillan (1996) conducted an independent study of fourth graders to determine if the use of the Accelerated Reader Program would have a positive effect on reading comprehension. The study used a quasi-experimental non-randomized pretest-posttest control group design as the study examined a cause-effect relationship. The study consisted of fourth graders from three comparable schools with similar reading curriculum, student population and administration within the same district. The experimental group, which used the Accelerated Reader Program, was comprised of

sixty-seven students who used the Accelerated Reader Program for one year. The control group, which did not use the program, was made up of one hundred forty-seven students. The study indicated that the use of The Accelerated Reader Program did not significantly increase the reading comprehension skills of the fourth graders studied as measured by the Texas Assessment of Academic Skills, a criterion-referenced test. McMillan went on to conclude that if a school district adopts The Accelerated Reader Program, it should not expect to see increased reading comprehension in the fourth grade, at least in the short term.

A study of 77 fourth and fifth graders was conducted on a campus where 72% of the students are on free or reduced lunch (Knox, 1996). The campus had just purchased the Accelerated Reader Program. The study looked at the effect Accelerated Reader had on achievement scores in reading comprehension and reading vocabulary for students in the fourth and fifth grades. Knox found that there was not any statistical difference between the use of the Accelerated Reader program and a teacher directed reading program when looking at the reading comprehension and reading vocabulary skills for fourth and fifth graders.

Holman (1998) produced similar findings to those reported by Knox (1996). In a correlational study between the Accelerated Reader program and the reading comprehension of fourth and fifth grade students, the researcher found that the impact of the Accelerated Reader program on reading comprehension as determined by the Iowa Test of Basic Skills was not statistically significant. In addition, a correlation between points earned in the Accelerated Reader program and reading comprehension gains were not statistically significant.

On the other hand, Kunz (1999) conducted a study to determine if there was a relationship between the use of the Accelerated Reader Program and children's average reading scores. An analysis of variance was conducted which yielded a significant p value of $< .0001$. Based on these findings, there was a positive relationship between the Accelerated Reader Program and children's average reading scores. This study was conducted on third through sixth graders.

Morse (1999) reported that by increasing student independent reading practice as reflected by an increase in Accelerated Reader points, student achievement on the Standardized Test for Assessment of Reading would be above normal as a result. While this study does show a significant relationship between independent reading practice and reading achievement by using Accelerated Reader materials, it fails to show that it was the Accelerated Reader program itself that caused the increase in reading achievement.

A study of sixth grade students was conducted to determine if the Accelerated Reader program had any effects on ITBS normal curve equivalents (NCE) for reading, mathematics, and language (Spradley, 1998). The study indicated that a significant difference did not exist between the control group and the Accelerated Reader treatment group in regards to the Total Math NCEs. There were significant differences between the two groups when looking at the ITBS Total Reading and Total Language NCEs. However, the researcher points out that economic status was a significant factor between the variables and the ITBS NCEs in the experimental group. It was noted that the students with a higher economic status had significantly higher reading, math, and language scores than the students from the lower economic level.

When reviewing the literature on Accelerated Reader it is important that the source be considered. It is an area of major concern when much of the available research

has either been sponsored by a commercial organization such as Advantage Learning Systems, which is connected with the Institute for Academic Excellence, or independent research that has not been published in a peer reviewed journal. Much of the research conducted to date has failed to control for variables such as prior achievement.

The Accelerated Reader Program and Attitude Toward Reading

A report submitted by Dolores McKnight (1999), and published by the Institute for Academic Excellence, summarized the findings of McKnight's research. The goal of the research was to have the students "read more books, read better books, and read for pleasure." The study looked at seventeen 5th grade students. These students were selected because of their lack of motivation to read. The students participated in Accelerated Reading for eleven weeks. Through the use of a pre- and post-survey to gauge reading attitudes, it was determined that "Overall, reading attitudes greatly improved after using Accelerated Reader for 11 weeks." In fact, ten of the seventeen students achieved their reading goals as individually set by the student and teacher and checked out books from the library for recreational reading at least twice a week. In addition, ten students also displayed improved behavior during extended periods of silent reading.

Rosenheck (1996), a researcher with no known affiliations to the Institute for Academic Excellence, conducted a study of 222 fifth graders to determine if the use of Accelerated Reader would impact attitudes toward reading, the media center and frequency of library use. The students chosen came from three different campuses. Two of the campuses were magnet schools, while the third is a gifted center site, which draws in the same type of students as the magnet schools. A survey provided by the researcher

asked students to respond to questions about their use of the library, the number of books they checked out, and if they enjoyed reading. The data were analyzed descriptively. The findings indicated that the use of Accelerated Reader did not make any significant differences in fifth graders' attitudes toward reading or use of the library. It was suggested that this study be conducted on a larger survey population.

McMillan (1996) conducted a quasi-experimental non-randomized study of fourth graders to determine if a cause-effect relationship existed between the Accelerated Reader Program and reading motivation. The sample consisted of fourth graders from three comparable elementary schools with similar reading curriculum, student population and administration within the same district. The experimental group, which used the Accelerated Reader Program, was comprised of sixty-seven students who used the Accelerated Reader Program for one year. The control group, which did not use the program, was made up of one hundred forty-seven students. Reading motivation data were obtained from library records for a three-week period. These records included the titles of books that the students checked out as well as the frequency that they checked out a new library book. Scores were assigned to each book according to the Accelerated Reader Program. The score assigned for a particular book is based on the book's reading level and the length of the book. The researcher concluded that the use of the program did increase reading motivation for this sample of students. McMillan attributes the increase in motivation to the fact that students were reading independently.

A qualitative study of a fourth and fifth grade multi age classroom looked at the effects of conducting student-teacher reading conferences in an inner city school (Verano, 1999). Student progress was evaluated through authentic assessment, Accelerated Reader testing, self-evaluation and goal setting. All students involved in the study showed

growth in reading levels. Because of the nature and focus of the study, it was not made clear whether the reading growth was related to the student-teacher conference, an element of the Accelerated Reader program, or the program itself.

Conclusion

Children enter school with a wide variety of literacy experiences. Some children come from environments rich with writing and reading experiences while others do not. This makes the job of the teacher all the more difficult. However, there are several best practices that promote literacy during early reading instruction. Classrooms that are literacy-enriched promote reading and writing as the way in which information is communicated in our daily lives. Skills and strategies are taught as children are engaged in meaningful activities relevant to their lives.

During the elementary school years, there is a focus on reading skills. Phonemic awareness is taught as well as constructing meaning from groups of words. These skills are ultimately combined to gain comprehension of a reading passage. Once students enter secondary school, the curriculum tends to become departmentalized. As a result, instruction is often segmented. Some secondary students will learn reading skills in reading class, but there is not always a connection to reading in other content areas such as history, science, or math.

Current literature focused on high achieving readers indicates that in order for them to have their intellectual needs met and be mentally challenged, students benefit from a reading program which is individualized and exposes them to vast amounts of literature of various genres. For intellectual stimulation and growth to occur, it is important for the able reader to be challenged on a higher cognitive level.

On the other hand, a review of the literature indicates that when dealing with at-risk reading students the best approach to reading instruction by far is early intervention. The idea behind early intervention is that by intervening in the learning process early in a child's school experience, reading and school failure can be avoided.

According to Webster (1985), an attitude is a mental position, a feeling or emotion toward a fact or state. Attitudes toward reading are important as they may effect how well a person reads and to what extent they find intrinsic value in the reading process. Because attitude influences a person's motivation, it is always a positive factor when the teacher can evaluate and analyze the attitudes and subsequently the motivation in the students.

It is the responsibility of educators to provide all of our students with instruction that is appropriate for their reading development. For some students this may require remediation and reteach, for others it may mean encouraging growth beyond what is required. However, most reading educators will tell you that it essential to impart a love for reading to all students regardless of their reading level. The Accelerated Reader Program is advertised as an individualized program that motivates students while encouraging them to quality literature at an appropriate level. It is important for independent research to be conducted to determine if the claims made by Advantage Learning Systems, Inc. are accurate.

The pieces of this research puzzle are scattered around, but remain to be put together. Much of the existing literature is based on poorly designed studies that lack adequate controls.

CHAPTER THREE

Method of Study

Introduction

The purpose of this chapter is to discuss the methodology employed in the study. During this chapter, the research design is explained and the sample population is described. In addition, there is an overview of the testing instruments including a review of both the Gates-MacGinitie Reading Test and the Heathington Attitude Scale that specifically speak to the reliability and validity of the instruments. Finally, the testing procedures and data analysis are addressed.

The purpose of this study was to describe the relationship between the use of the Accelerated Reader Program, a computerized reading management program marketed by Advantage Learning Systems, Inc., and students' attitudes towards reading while specifically focusing on the difference in attitudes between low achieving and high achieving students. In addition, this study aimed to describe the relationship between reading achievement and the use of the Accelerated Reader Program.

Research Design

This study is quasi-experimental in nature since it did not use a random sample or random assignment to groups. Given the purpose of this study, the following research questions were addressed:

- RQ1. Is there a difference in attitude towards reading between students who use Accelerated Reader and those who don't?
- RQ2. Is there a difference in attitude towards reading between high achieving and low achieving students using Accelerated Reader?

RQ3. Is there a difference in reading achievement between students using the Accelerated Reader program and those that do not?

The following null hypotheses were tested:

NH1. There is no statistically significant difference in attitude between the students that used the Accelerated Reader program and those who did not.

NH2. There is no statistically significant difference in attitude between students performing in the top quartile on the Gates-MacGinitie Reading test and those performing in the bottom quartile.

NH3. There is no statistically significant difference in reading achievement scores on the Gates-MacGinitie Reading test between the students that used the Accelerated Reader program and those who did not.

Sample

This study was conducted in a medium sized town in Central Texas. It involved two campuses, 52 students, and four teachers. The two campuses were chosen as they are similar in demographic make up. The researcher verified the demographic data with the principals of each of the schools involved as well as demographic literature published by the school district. Since many of the public schools in the Central Texas region use the Accelerated Reader program at the elementary school level, the control population was drawn from a local private school with similar demographic make-up. Public School A was chosen as the experimental group because it is an Accelerated Reader Model School as determined by Advantage Learning Systems, Inc.

Public School A is a neighborhood school located in a residential area of town.

Table 1 shows that at the time of the study there were 258 students enrolled in kindergarten through fifth grade at this campus. African American students made up 20.1 percent of the campus, Hispanic students made up 20.5 percent, Asian students

made up 1.6 percent, and Caucasian students made up the remaining 57.7 percent of the student body.

Table 1

Campus Demographics

	Total Students	African American %	Hispanic %	Asian %	Caucasian %
Public School A	258	20.1%	20.5.5%	1.6%	57.8%
Private School A	219	0.0%	2.0%	0.0%	98.0%

Economically disadvantaged students made up 57.7 percent of the campus population. All of the teachers at Public School A hold valid teaching certificates. Public School A was identified by the Institute for Academic Excellence as a model school for the gains and achievement made during the use of the Accelerated Reader program for the school year in which the study was conducted. To achieve this certification, the Accelerated Reader coordinator submitted an essay about the Accelerated Reader Program in the school and demonstrated that the campus met the following criteria:

1. At least five teachers or 30 percent of reading teachers (whichever is greater) must have Model Classroom certification.
2. No more than 15 percent of students school-wide may be classified as at-risk on the At-Risk Report (Reading average below 85 and/or less than half of the median points for the class.) when that data for all classes is considered.
3. Students must spend an average of 45 minutes school-wide reading each day.

In addition to the campus being deemed as a model school, all of the individual classroom teachers have received a certificate identifying them as maintaining a model classroom as denoted by the Accelerated Reader Program standards. To be certified as a Model Classroom, each teacher had to provide evidence in the form of an At-Risk Report generated by the Accelerated Reader Management Program for the most recent grading period that showed each individual classroom met the following three criteria:

1. The average percent correct on the Accelerated Reader Test for the class must be between 85 and 92.
2. Median points earned must be at least 80 percent of the expected points as indicated on the goal setting chart provided by Accelerated Reader and based on the student's reading level as determined by the STAR computerized testing.
3. No more than ten percent of the students who have been in class for at least 12 weeks can be classified as at-risk (an Accelerated Reader test average below 85 and less than half of the median points earned by the class).

In addition, the classroom teacher had to write an essay about how the Accelerated Reader Program was used in the classroom. The sample population for the treatment group was drawn from this campus. It was important for the 2 classes used in the experimental group to be identified as model classrooms as it further assured the consistent use of the Accelerated Reader Program in these classes as intended by the Institute for Academic Excellence.

The treatment group consisted of 11 fourth graders and 14 fifth graders. Both of the teachers hold valid teaching certificates. Both have been trained in the use of Accelerated Reader. In addition, each has used the Accelerated Reader program for at

least four years and has received the model classroom certification from the Institute for Academic Excellence on several occasions. In addition to receiving traditional text-based reading instruction with direct skills instruction from the teacher, the students used the Accelerated Reader Program for one hour during the school day and 30 minutes each school night at home. To verify student progress, reading logs were kept by the students and monitored daily by the teacher. In order to verify the implementation of the treatment program and to determine that the classrooms used the Accelerated Reader program in similar ways, the teachers were observed by the researcher during the use of the Accelerated Reader Program.

The control population was drawn from fourth and fifth graders at Private School A. This is a private school that has enrollment for students in kindergarten through eighth grade. At the time of the study, there were 219 students enrolled at this campus. As shown in Table 1, the population of this campus contained 10.5 percent economically disadvantaged children. Caucasian children made up 98 percent of this population, while African-American made up 0 percent and Hispanic 2 percent. Only 91.3 percent of the teachers at Private School held a valid teaching certificate.

The control group consisted of 13 fourth graders and 14 fifth graders. Both of these teachers held valid teaching certificates. The control group received a traditional text-based reading program consisting of direct skills instruction by the teacher. This was verified when the researcher interviewed both the principal and the teachers from Private School A involved in the study. The school did not provide tutoring outside of the school day. Apart from the additional utilization of the Accelerated Reader Program by the treatment group, the two schools have similar approaches to reading instruction.

Instruments

In order to assess student attitudes toward reading, the Heathington Attitude Scale (intermediate version) was employed (McGinnis & Smith, 1982). This scale was developed in 1975 by Betty Heathington to measure the attitudes of children towards reading. The primary scale was developed for students in grades one through three, and the intermediate scale is used for students in grades four through six (Barton, 1989). The students are asked to respond to a survey that incorporates a series of 24 statements depicting how they feel about reading. A score of 5 is given for a very positive response and a 1 for a very negative response. The range of possible scores is 120 (5 X 24) to 24 (1 X 24) (Heathington, 1975). The Heathington Attitude Scale is a Likert scale, or summated rating, and gives feedback about school-related reading activities such as free reading and organized reading, reading at the library, reading at home, other recreational reading, and general reading. Because attitudes cannot be seen, a self-report method is the most direct and frequently used method of assessing attitudes (Epstein, 1980).

According to Hall (1977), The Heathington Attitude Scale is “a reliable and valid instrument that measures children’s attitudes toward reading and includes not only attitudes toward compulsory reading such as that done at school, but also recreational reading, such as would be done at home, in spare time, or at the library (p. 2).”

A test review of the Heathington Attitude Scale by Barton (1989) to determine the reliability of the intermediate scale yielded an r of .87. Based on this figure, the Heathington Attitude Scale (intermediate version) appears to yield consistent, or reliable, test results.

Epstein (1980) points out that it is difficult to establish validity of attitude measures. There are several factors that may affect test validity. One of the main factors

that would affect validity is that some subjects may have a lack of self-awareness toward the attitude domain. The possibility exists that all of the subjects do not possess the degree of introspection necessary to respond with accurate and relevant answers. He also points out that when reading attitudes are measured, the researcher might reasonably expect variations in measurement results. This may be attributed to the fact that the attitude held by the student is unstable. Generally speaking, attitude measures provide estimates of reliability that are generally lower than the reliability of ability and general knowledge tests because attitudes are more flexible and subject to change.

However, Barton (1989) points out that the Heathington Attitude Scale (intermediate version) shows test validity. Classroom teachers were asked to identify the five students with the poorest attitude towards reading and the five students with the most positive attitude towards reading in their class. The means of these two groups were then compared to determine if there was any statistical significance. The mean for the group of students with the poorest attitude was 69.60, while the mean for the group with the most positive attitude was 81.00 with a t of 2.36, p of .02. Based on these results the intermediate scale appears to be valid.

In order to assess reading achievement, The Gates-MacGinitie Reading Tests were used. These tests, published by Riverside Publishing Company, are standardized and measure achievement in reading from the end of Kindergarten through Grade 12. Each level test consists of two tests--a vocabulary test and a comprehension test. The reading passages include a balance of different genres of writing. The vocabulary words are drawn from authoritative lists and include the different parts of speech. Scores for the Gates-MacGinitie Reading Tests are available for the vocabulary test, the comprehension test, and the total score. Scores for each test and the total score may be reported as

percentile ranks, national stanines, normal curve equivalents, extended scale scores, and grade equivalents (Goodman, 1998).

A test review of the Gates-MacGinitie by Cooter (1989) indicates that the reliability (KR-20) of the vocabulary subtests range from .88 to .91, and comprehension subtests from .87 to .92. Total test reliabilities range from .93 to .95. Based on these figures, the Gates-MacGinitie Reading Test appears to yield consistent, or reliable, test results. One of the limitations of the Gates-MacGinitie, as with most standardized reading tests, is the lack of validity evidence. That is to say there is not sufficient evidence that the test measures what it claims to measure. However, since the tests include a variety of vocabulary and reading passages, the authors of the test informally establish a degree of curricular validity.

Procedure

Permission to conduct this study was obtained from the principal of Private School A, the principal of Public School A, as well as the superintendent of the school district. The study was explained to the faculty involved at a conference, and the researcher went over the testing schedule and procedures with the teachers. In addition, the purpose of each test was explained to the teachers. All of the teachers involved in the study admitted that they did not make a conscious effort to promote positive attitudes toward reading. Parental permission for testing and the release of student information was also obtained. Parents and students were assured by the researcher that confidentiality would be used and that the data would be aggregated. Prior to testing, the researcher gathered demographic information on the students involved in the study from each of the campuses involved.

The Gates-MacGinitie Reading Test and Heathington Primary Interest Scale were both administered to the individual grades by the researcher on consecutive days at Public School A and Private School A in September of 2002 as a pretest and in May 2003 as a post test. Individual children were identified by name in the data analysis procedure. After the tests were scored, performance data were entered into a common database where the individuals' names were replaced with an assigned number. These assigned numbers were used during the data analysis procedure.

The testing sessions lasted for approximately one hour. During this time, the students completed the vocabulary and comprehension subtests of the Gates-MacGinitie reading test. Each of these subtests lasted for 20 minutes. The Heathington Attitude Survey took between five and ten minutes for each student to complete. The students received two five-minute breaks during the testing session. These breaks occurred between the two subtests and between the administration of the Gates-MacGinitie Reading Test and the Heathington Attitude Survey.

Data Analysis

Both the Gates-MacGinitie Reading Test and the Heathington Attitude Survey were hand scored by the researcher. The statistics were all computed using SPSS, a computerized statistical analysis program. To describe the data in each of the research questions, descriptive statistics were used to find the mean and standard deviation. Because null hypothesis one is directional, it was necessary to perform a one-tailed test of significance. The results were measured using an interval/ratio scale. Having one dependent and one independent variable, the best test statistic was a T-test because of the measurement scale and design.

Null hypothesis two required a two-tailed test of significance since the hypothesis is non-directional. A T-test was performed.

Null hypothesis three was co-varied for prior achievement. It is necessary to look at the growth in achievement since there is no randomization. An ANCOVA test was run on the data.

CHAPTER FOUR

Results of the Study

Introduction

The purpose of this study was to describe the relationship between the use of the Accelerated Reader Program, a computerized reading management program marketed by Advantage Learning Systems, Inc. and students' attitudes towards reading while specifically focusing on the difference in attitudes toward reading between low achieving and high achieving students. In addition, this study aimed to describe the relationship between reading achievement and the use of the Accelerated Reader Program. To achieve this purpose, the following research questions were investigated:

1. Is there a difference in attitude towards reading between students who use Accelerated Reader and those who don't?
2. Is there a difference in attitude towards reading between high-achieving and low achieving students using Accelerated Reader?
3. Is there a difference in reading achievement between students using the Accelerated Reader Program and those that do not?

The control group consisted of the fourth and fifth grade students at Private School A located in Central Texas. These students did not use the Accelerated Reader Program from Advantage Learning Systems, but received traditional instruction in reading. The treatment group was comprised of fourth and fifth grade students at Public School A in Central Texas. In addition to traditional reading instruction, these students used the Accelerated Reader computerized management system.

Research Question One

Is there a difference in attitude towards reading between students who use Accelerated Reader and those who don't? Table 2 summarizes the means and standard deviations of the Heathington Attitude Scale. The group using the Accelerated Reader Program scored higher ($M = 76.2$, $SD = 19.0$) on the Heathington Attitude Scale than did the group not using the Accelerated Reader Program ($M = 67$, $SD = 19.3$); however, this difference was not statistically significant, $t(47) = -1.670$, $p = .102$. Moreover, there were no significant differences in attitude towards reading between 4th grade students who used Accelerate Reader and those who did not use the program, $t(19) = -.449$, $p = .658$. Similarly, there were no significant differences in attitude towards reading between 5th graders using Accelerated Reader and those not using the program, $t(26) = -1.836$, $p = .078$.

To verify the findings of the independent t-test, the researcher performed an ANOVA test and viewed the findings as an entire group as well as fourth and fifth grade independently. Table 3 showed that there was no significant difference in attitude towards reading between students who used Accelerated Reader and those who did not use the program, $F(1, 47) = 2.789$, $p < .102$.

Table 2

Summary of Means and Standard Deviations for the Heathington Attitude Scale by Group and Grade

Grade	Control Group			Treatment Group			Total		
	N	M	SD	N	M	SD	N	M	SD
4 th Graders	13	73.0	14.0	8	76.1	17.7	21	74.19	15.17
5 th Graders	14	61.5	22.3	14	76.3	20.3	28	68.90	22.22
Total	27	67	19.3	22	76.2	19.0	49	71.16	19.51

Table 3

The ANOVA for the Heathington Attitude Scale by Group

Attitude Scale	Sources of Variances	Sum of Square	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>
Attitude Score	Between Groups	1023.87	1	1023.87	2.789	0.102
	Within Groups	17252.83	47	367.08		

N = 49

Not surprisingly, there was no significant difference in attitude towards reading between 4th grade students who used the Accelerated Reader Program and those who did not use the program, $F(1, 19) = .202, p < .658$. Table 4 is a summary of the results of the ANOVA.

Table 4

*The ANOVA for the Heathington Attitude Scale by Group
(4th Graders)*

Attitude Scale	Sources of Variances	Sum of Square	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>
Attitude Score	Between Groups	48.36	1	48.36	0.202	0.658
	Within Groups	4552.88	19	239.63		

N = 21

Similarly, Table 5 illustrated that there were no significant differences in attitude towards reading between 5th graders who used Accelerated Reader and those who did not use the program, $F(1, 26) = 3.37, p < .078$.

Table 5

*The ANOVA for the Heathington Attitude Scale by Group
(5th Graders)*

Attitude Scale	Sources of Variances	Sum of Square	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>
Attitude Score	Between Groups	1530.32	1	1530.32	3.370	0.078
	Within Groups	11808.36	26	454.17		
N = 28						

Research Question Two

Is there a difference in attitude towards reading between high achieving and low achieving students using Accelerated Reader? High achieving students were identified in each grade by finding the top quartile of total test scores on the Gates-MacGinitie Reading Test. Similarly, the low achieving students were identified by the bottom quartile of total test scores on the Gates-MacGinitie Reading Test. Overall, the results yielded from a t-test as shown in Table 6 indicated that there was no statistically

Table 6

Summary of Means and Standard Deviations for the Heathington Attitude Scale

Grade	High Achievers			Low Achievers			Total		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
4th Graders	2	86.50	28.99	2	73.50	7.78	4	80.00	18.89
5th Graders	4	78.50	20.74	4	68.25	12.74	8	73.38	16.85
Total	6	81.17	21.06	6	70.00	10.81	12	75.58	16.99

significant difference in the reading attitude between the high and low achievers who used the Accelerated Reader Program, $t(10) = -1.156$, $p = .275$, though the high achievers

scored higher ($M = 81.17$, $SD = 21.06$) on the Heathington Attitude Scale than did the low achievers ($M = 70.00$, $SD = 10.81$).

Moreover, the difference in attitude towards reading between the 4th grade high achievers ($M = 86.50$, $SD = 28.99$) and the 4th grade low achievers ($M = 73.50$, $SD = 7.78$) was not significant, $t(2) = -.612$, $p = .603$. Similarly, there was no significant difference in attitude towards reading, $t(6) = -.842$, $p = .432$, between the high and low achievers in the 5th grade.

Research Question Three

Is there a difference in reading achievement between students using the Accelerated Reader Program and those that do not? At the beginning of the study, the Gates-MacGinitie Reading Test was administered as a pretest. The fourth graders in the treatment group scored higher ($M = 494$, $SD = 19.8$) than the fourth graders in the control group ($M = 475$, $SD = 17.7$) on the Total test score as shown in Table 7.

Table 7

Summary of the Means and Standard Deviations of the Pretest Gates-MacGinitie Reading Test of the 4th Graders, Using Scale Scores

Gates-MacGinitie Reading Test Scores	Control Group(n=13)		Treatment Group(n=8)		Total (n=21)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Vocabulary Score	478	20.5	494	26.6	484	23.7
Comprehension Score	473	22.5	495	25.4	482	25.5
Total Score	475	17.7	494	19.8	482	20.2

Likewise, the fifth graders in the treatment group scored higher ($M = 513$, $SD = 43.4$) on the Total test score than did the students in the control group ($M = 492$, $SD = 28.8$) as shown in Table 8.

Table 8

Summary of the Means and Standard Deviations of the Pretest Gates-MacGinitie Reading Test of the 5th Graders, Using Scale Scores

Gates-MacGinitie Reading Test Scores	Control Group(n=14)		Treatment Group(n=14)		Total (n=28)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Vocabulary Score	498	26.2	516	52.4	507	41.8
Comprehension Score	489	36	514	40.4	501	39.6
Total Score	492	28.8	513	43.4	503	37.7

Table 9 presents an overview of the Means and Standard Deviation for the control and treatment group for the Vocabulary subtest and the Comprehension subtest as well as the Total test score. The treatment group had a higher Means and Standard Deviation on each of the sections as will be discussed below.

Table 9

Summary of the Means and Standard Deviations of the Gates-MacGinitie Reading Test by Group, Using Scale Scores

Gates-MacGinitie Reading Test Scores	Control Group(n=27)		Treatment Group(n=22)		Total (n=49)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Vocabulary Score	499.74	33.43	520.77	38.42	509.18	36.9
Comprehension Score	493.96	37.65	521.36	46.66	506.27	43.7
Total Score	497.41	32.99	520.32	40.53	507.69	38

The results of the ANCOVA shown in Tables 10 and 11 indicated that there were no significant differences among the control and treatment groups, $F(1, 46) = .586$,

Table 10

ANCOVA for the Vocabulary Scores of the Gates-MacGinitie Reading Test

Vocabulary Sub-Test	Sources	Sum of Square	df	Mean Square	F	p
	Treatment (AR)	270.82	1	270.82	0.586	0.448
	Error	21262.77	46	462.23		

N = 49

$p=.448$, and the partial eta square of .013 suggested a weak relationship between post-vocabulary scores and teaching methods, controlling for pre-vocabulary scores.

Table 11

ANCOVA for the Comprehension Scores of the Gates-MacGinitie Reading Test

Comprehension Sub-Test	Sources	Sum of Square	df	Mean Square	F	p
	Treatment (AR)	102.34	1	102.34	0.134	0.716
	Error	35256.25	46	766.44		

N = 49

Similarly, the ANCOVA test indicated that there were no significant differences in the Total Score of the Gates-MacGinitie Reading Test between two groups, $F(1, 46) = .066$, $p = .798$ (see table 12).

Table 12

*ANCOVA for the Total Scores of the Gates-MacGinitie
Reading Test*

Total Score	Sources	Sum of Square	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>
	Treatment (AR)	29.22	1	29.22	0.066	0.798
	Error	20377.69	46	442.99		

N = 49

For the 4th graders in this study, there were no significant differences in Vocabulary sub scores between the control and treatment groups, $F(1, 18) = .002$, $p = .966$. Likewise, there was no significant difference in Comprehension sub scores between the control and treatment groups, $F(1, 18) = .004$, $p = .949$. Finally the Total Score of the Gates-MacGinitie Reading Test showed no statistically significant difference between the control and treatment groups, $F(1, 18) = .352$, $p = .560$.

Table 13

*The Means, Standard Deviations & ANCOVA of the Post Test Gates-MacGinitie
Reading Test of the 4th Graders, Using Scale Scores*

Gates-MacGinitie Reading Test Scores	Control Group (n = 13)		Treatment Group (n = 8)		<i>df</i>	<i>F</i>	<i>P</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Vocabulary Score	496.38	29.73	510.88	25.65	18	0	0.97
Comprehensive Score	498.46	32.75	518.38	26.74	18	0	0.95
Total Score	499.85	29.10	513.38	20.40	18	0.4	0.56

N=21

Among the 5th grade students, the differences in the scores of the Gates-MacGinitie Reading Test between the control and treatment groups were not significant.

There was no a significant difference between the two group on the Vocabulary subtest, $F(1, 25) = .874, p = .359$. Likewise, the Comprehension subtest scores between the

Table 14

The Means, Standard Deviations & ANCOVA of the Post Test Gates-MacGinitie Reading Test of the 5th Graders, Using Scale Scores

Gates-MacGinitie Reading Test Scores	Control Group(n=14)		Treatment Group(n=14)		<i>df</i>	<i>F</i>	<i>P</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Vocabulary Score	502.86	37.38	526.43	43.99	25	0.874	0.359
Comprehensive Score	489.79	42.49	523.07	55.88	25	0.379	0.544
Total Score	495.14	37.19	524.29	48.81	25	0.796	0.381

N = 28

control and the treatment group showed no significant difference either, $F(1, 25) = .379, p = .544$. Similarly, the overall Test score yielded no statistically significant difference between the two groups, $F(1, 18) = .796, p = .381$.

The tests were hand scored by the researcher. Data were keyed into a computerized database for use in the SPSS computer program used for statistical analysis.

Summary

Research Question One

According to the data collected using the Heathington Attitude Survey, the group of combined fourth and fifth graders which used the Accelerated Reader Program scored higher ($M = 76.23, SD = 18.96$) on the survey than those that did not ($M = 67.04, SD = 19.32$). However, the difference was not statistically significant as the p value exceeded

.05 ($p = .102$). In light of the data collected in this study, the conclusion can be drawn that there is not a significant relationship between the use of the Accelerated Reader Program and student attitude toward reading. Moreover, when analyzing the data from the survey by grade levels, the fourth grade data indicated no significant differences in attitude towards reading between groups ($p = .658$). Similarly, the data revealed no significant differences in attitude towards reading among the fifth graders surveyed ($p = .078$).

Research Question Two

Overall, the results yielded from a t-test indicates that although the high achieving students who use the Accelerated Reader Program scored higher ($M = 81.17$, $SD = 21.06$) than the low achieving students who use the Accelerated Reader Program ($M = 70.00$, $SD = 10.81$), there was no statistically significant difference in reading attitude between the high achieving students and low achieving students who use the Accelerated Reader Program ($p = .275$).

Moreover, there was no statistically significant difference in attitude towards reading in the fourth grade high achieving students who use the Accelerated Reader Program and the low achieving students who use the Accelerated Reader Program ($p = .603$). Similarly, the results yielded from the data indicates that there is no significant difference in reading attitude between fifth grade high achieving students who use the Accelerated Reader Program and low achieving students who use the Accelerated Reader Program.

Research Question Three

Overall, the results indicate that there were no statistically significant differences between the control and treatment groups in reading achievement($p = .448$). The partial eta square of .013 suggests a weak relationship between the post-vocabulary scores and the use or nonuse of the Accelerated Reader Program, controlling for pre-vocabulary scores. Similarly, the data shows that there were no significant differences in the Total Score of the Gates-MacGinitie Reading Test between the students who use the Accelerated Reader Program and those who did not ($p = .789$).

For the fourth graders in this study, there were no statistically significant differences in between the control and treatment groups when examining the vocabulary sub scores ($p = .966$), the comprehension sub score ($p = .949$), and the Total Test score of the Gates-MacGinitie Reading Test ($p = .560$).

Likewise, the differences between fifth graders who use the Accelerated Reader Program and those who did not were not statistically significant when examining the data collected using the Gates-MacGinitie Reading Test. There was no significant difference between the control and treatment groups on the Vocabulary subtest ($p = .359$). Similarly, the Comprehension subtest scores between the control and treatment groups showed no significant differences either ($p = .544$). Not surprisingly, the overall Test score yielded no statistically significant difference between the fifth graders who use the Accelerated Reader Program and those who did not ($p = .381$).

Conclusions and implications of the research finding will be discussed in the following chapter.

CHAPTER FIVE

Conclusions and Recommendations

Introduction

The purpose of the study was to describe the relationship between the use of the Accelerated Reader Program and students' attitudes towards reading specifically focusing on the difference in attitude towards reading between high achieving and low achieving students using the Accelerated Reader Program. In addition, the study described the relationship between reading achievement for students who used the Accelerated Reader Program and those who did not.

It is the responsibility of educators to provide all of our students with instruction that is appropriate for their reading development. For some students this may require remediation and reteaching, for others it may mean encouraging growth beyond what is required. However, most reading educators will tell you that it is essential to impart a love for reading to all students regardless of their reading level. The Accelerated Reader Program is advertised as an individualized program that motivates students while encouraging them to read quality literature at an appropriate level. It is important for independent research to be conducted to determine if the claims made by Advantage Learning Systems, Inc. are accurate.

The pieces of this research puzzle are scattered around, but remain to be put together. Much of the existing literature is based on poorly designed studies that lack adequate controls. It is imperative that independent research, free from the bias of Advantage Learning Systems, Inc., be conducted to corroborate the company's findings

that the use of their program would impact in a positive manner the attitude of students towards reading as well as causing the students to show significant gains in reading achievement. Accordingly, the Heathington Attitude Scale was administered to fourth and fifth grade students who used the Accelerated Reader Program as well as those who did not. The data from the survey were examined to determine the relationship between their interest in reading and the use of the Accelerated Reader Program. More specifically, the data were examined even further to see if there was a relationship between high achieving students and low achieving students who used the Accelerated Reader Program and those that did not regarding their interest in reading. Finally, The Gates-MacGinitie Reading Test was administered to the students that used the Accelerated Reader Program and those that did not to determine if there is a relationship between the use of the Accelerated Reader Program and student reading achievement. In addition to the Total Test scores, the data examined both vocabulary scores as well as reading comprehension scores.

Conclusions

Research Question One

Is there a difference in attitude towards reading between students who use Accelerated Reader and those who don't?

According to the data collected using the Heathington Attitude Survey, the group of combined fourth and fifth graders which used the Accelerated Reader Program scored higher ($M = 76.23$, $SD = 18.96$) on the survey than those that did not ($M = 67.04$, $SD = 19.32$). However, the difference was not statistically significant as the p value exceeded .05 ($p = .102$). In light of the data collected in this study, the conclusion can be drawn

that there is not a significant relationship between the use of the Accelerated Reader Program and student interest in reading.

Moreover, when analyzing the data from the survey by grade levels, the fourth grade data indicated no significant differences in attitude towards reading between groups ($p = .658$). Similarly, the data revealed no significant differences in attitude towards reading among the fifth graders surveyed ($p = .078$)

Research Question Two

Is there a difference in attitude towards reading between high achieving and low achieving students using Accelerated Reader?

After administering the Gates-MacGinitie Reading Test and the Heathington Attitude Scale to both groups of fourth and fifth graders, high achieving students were determined by finding which subjects scored in the top quartile of the Gates-MacGinitie Reading Test for each of the grade levels. Similarly, low achieving students were identified by using the students falling in the bottom quartile of the Gates-MacGinitie Reading Test. The scores from the Heathington Attitude Scale were used for these identified students.

Overall, the results yielded from a t-test indicates that although the high achieving students who use the Accelerated Reader Program scored higher ($M = 81.17$, $SD = 21.06$) than the low achieving students who use the Accelerated Reader Program ($M = 70.00$, $SD = 10.81$), there was no statistically significant difference in reading attitude between the high achieving students and low achieving students who use the Accelerated Reader Program ($p = .275$).

Moreover, there was no statistically significant difference in attitude towards reading in the fourth grade high achieving students who use the Accelerated Reader Program and the low achieving students who use the Accelerated Reader Program ($p = .603$). Similarly, the results yielded from the data indicated that there is no significant difference in reading attitude between fifth grade high achieving students who use the Accelerated Reader Program and low achieving students who use the Accelerated Reader Program.

From this comparison, it can be concluded that the Accelerated Reader Program does not have a significant impact on the difference in reading attitudes of high achieving and low achieving fourth and fifth graders using the Accelerated Reader Program.

Research Question Three

Is there a difference in reading achievement between students using the Accelerated Reader Program and those that do not?

In order to measure reading achievement, the Gates-MacGinitie Reading Test was administered to both the control and treatment group in September as a pretest and in May as a posttest. The data collected from the tests include both vocabulary and comprehension sub scores as well as the total test score.

Overall, the results indicate that there were no statistically significant differences among the control and treatment groups ($p = .448$), and the partial eta square of .013 suggests a weak relationship between the post-vocabulary scores and the use or nonuse of the Accelerated Reader Program, controlling for pre-vocabulary scores.

Similarly, the data showed that there were no significant differences in the Total Score of the Gates-MacGinitie Reading Test between the students who use the Accelerated Reader Program and those who did not ($p = .789$).

For the fourth graders in this study, there were no statistically significant differences between the control and treatment groups when examining the vocabulary sub scores ($p = .966$), the comprehension sub score ($p = .949$), and the Total Test score of the Gates-MacGinitie Reading Test ($p = .560$).

Likewise, the differences between fifth graders who use the Accelerated Reader Program and those who did not were not statistically significant when examining the data collected using the Gates-MacGinitie Reading Test. There was no significant difference between the control and treatment groups on the Vocabulary subtest ($p = .359$). Similarly, the Comprehension subtest scores between the control and treatment groups showed no significant differences either ($p = .544$). Not surprisingly, the overall Test score yielded no statistically significant difference between the fifth graders who use the Accelerated Reader Program and those who did not ($p = .381$).

In view of the data, it can be concluded that there is not a significant relationship between the use of the Accelerated Reader Program and student reading achievement. In addition, the gains shown in vocabulary and reading comprehension cannot be attributed to the use of the Accelerated Reader Program.

Recommendations for Further Research

Due to the overwhelming use of the Accelerated Reader Program in the Central Texas area, it was difficult to find a control group for this study. As a result, one of the

limitations of this study was the small number of participants. A suggestion for further research is to conduct the study using a larger sample of participants.

Research question one examined the difference in attitude towards reading between students who used Accelerated Reader and those who did not. Additional research and analysis should be conducted to determine not only if there was a difference between the two groups, but a comparison of the increase or decrease in student interest in reading during the school year between the students using the Accelerated Reader Program and those who do not.

Research question two looked at the difference in attitude towards reading between high achieving and low achieving students using Accelerated Reader. Additional research and analysis could be conducted to determine if there was a difference in attitude towards reading between high achieving and low achieving students who did not use the Accelerated Reader Program. Additionally, an analysis should be performed to determine if there is a statistically significant difference in attitude towards reading between high achieving students who did use Accelerated Reader and those who did not. Likewise, a similar analysis could determine whether the data yielded a significant difference in attitude towards reading between low achieving students who used the Accelerated Reader Program and those who did not.

Research question three examined the difference in reading achievement between students using the Accelerated Reader and those that do not. Because the sample population was limited, it is recommended that this portion of the research be repeated on a larger scale. In addition, research and analysis could be conducted to determine not only if there was a difference between the two groups, but a comparison of the increase or decrease in student reading achievement during the school year between the students

using the Accelerated Reader Program and those who do not. Also, qualitative research could be conducted by interviewing teachers and students concerning their beliefs and attitudes regarding the Accelerated Reader Program.

Ultimately, this research study has merely scratched the surface in discovering the impact of the Accelerated Reader Program on student interest in reading and reading achievement. In order to adequately answer such a question, there will need to be many more similar research studies.

Final Comments

In our society today there are as many different reading programs as there are philosophies of teaching. Programs may address the needs of special learning populations such as learners labeled at-risk and gifted learners and whole class instructional programs using direct instruction or whole language. These programs vary by instructional level, by content organization, and by sequence. There are, however, common threads that run through the programs that have proven successful over time. Based on the commonalities of successful reading programs and sound educational research, educators can continue to build a framework for researching and evaluating reading programs. An effective reading program may then be achieved by uniting theory and practice.

Children enter school with a wide variety of literacy experiences. Some children come from environments rich with writing and reading experiences while others do not. This makes the job of the teacher all the more difficult. However, there are several best practices that promote literacy during early reading instruction. Classrooms that are literacy-enriched promote reading and writing as the way in which information is

communicated in our daily lives. Skills and strategies are taught as children are engaged in meaningful activities relevant to their lives.

During the elementary school years, there is a focus on reading skills. Phonemic awareness is taught as well as constructing meaning from groups of words. These skills are ultimately combined to gain comprehension of a reading passage. Once students enter secondary school, the curriculum tends to become departmentalized. As a result, instruction is often segmented. Students will learn reading skills in reading class, but there is not always a connection to reading in other content areas such as history, science, or math.

Current literature focused on high achieving readers indicates that in order for them to have their intellectual needs met and be mentally challenged, they benefit from a reading program which is individualized and exposes them to vast amounts of literature of various genres. For intellectual stimulation and growth to occur, it is important for the able reader to be challenged on a higher cognitive level.

On the other hand, a review of the literature indicates that when dealing with at-risk reading students the best reading instruction by far includes early intervention. The idea behind early intervention is that by intervening in the learning process early in a child's school experience, reading and school failure can be avoided.

According to Webster (1985), an attitude is a mental position, a feeling or emotion toward a fact or state. Attitudes toward reading are important as they may effect how well a person reads and to what extent they find intrinsic value in the reading process. Because attitude influences a person's motivation, it is always a positive factor when the teacher can evaluate and analyze the attitudes and subsequently the motivation in the students.

It is the responsibility of educators to provide all of our students with instruction that is appropriate for their reading development. For some students this may require remediation and reteach, for others it may mean encouraging growth beyond what is required. However, most reading educators will tell you that it is essential to impart a love for reading to all students regardless of their reading level. The Accelerated Reader Program is advertised as an individualized program that motivates students while encouraging them to read quality literature at an appropriate level. It is important for independent research to be conducted to determine if the claims made by Advantage Learning Systems, Inc. are accurate.

The pieces of this research puzzle are scattered around, but remain to be put together. Much of the existing literature is based on poorly designed studies that lack adequate controls.

This study investigated the relationship between the use of the Accelerated Reader Program and the attitude of students towards reading, specifically for low and high achieving students. In addition, the relationship between the use of the Accelerated Reader Program and student reading achievement was examined. Results of the study suggest that there is no significant relationship between the use of the Accelerated Reader Program and student interest toward reading. Likewise, the study showed that the Accelerated Reader Program did not have a significant impact on the reading interest of low achieving students when compared to high achieving students. Similarly, the data indicated that there was not a significant relationship between the use of the Accelerated Reader Program and student reading achievement. Taking into account the limitations of this study, suggestions for further research have been included which would increase the

knowledge of the impact that the Accelerated Reader Program has on student interest toward reading.

APPENDICES

APPENDIX A

Parental Consent Form

Parental Consent Form

Baylor University
Certification of Informed Consent
Principal Investigator: Deborah Ann Focarile, M.S.Ed.,
Doctoral student, Baylor University

This form asks for your consent for your child to participate in educational research designed to gain a better understanding of the relationship between student attitude towards reading, student reading achievement, and the Accelerated Reader program. For this research your child will be asked to take a survey of reading attitudes and a reading comprehension test in both the fall and spring semesters. Each testing situation should last no longer than two hours during which time two breaks will be provided.

There will be no physical risk at any time. You may elect, either now or at any time during the study, to withdraw your child, with no penalty or loss of benefits. You should understand that your compliance is completely voluntary.

We have no interest in knowing how a specific individual performs on the tasks. Each student will be assigned a number, and this information will be stored in a locked filing cabinet which can be accessed only by the researcher. The data will be aggregated, so your child will be guaranteed complete anonymity.

This study meets the American Psychological Association's standards for "Minimal Risk," and poses no major risk or dangers to your child as a participant.

The results will be tabulated in the coming months, and will be available for you to review, should you wish to see the outcome. Since the data is aggregated, however, we have no way to tell you how your child individually did on any of the tests. These data will allow us to better understand the relationship between the Accelerated Reader program, student interest in reading, and student reading achievement.

You may desire to share this information with your minor child. While only you as a parent or legal guardian are capable under the law to consent to your child's participation in this study, it is preferable that your child be made aware (consistent with your child's age and level of understanding) that they are part of a study. If you discern that your child is

not comfortable with participating in the study, you may consider (as a parent or legal guardian) not consenting to your child's participation in the study.

Please direct all inquiries to Deborah Focarile, graduate student, Baylor University, 1332 Circlewood Drive, Woodway, TX 76712 or by phone at (254) 772-3130. You may also contact Dr. Pat Sharp, School of Education, Baylor University, Box 97304, Waco, TX 76798. Dr. Sharp can also be reached at (254) 710-3111. Dr. Sharp is the Baylor University faculty chairman of the dissertation committee overseeing this research.

If you have any questions regarding your rights as a participant, or have other questions regarding this research, please contact the Baylor University Committee for Protection of Human Subjects in Research, Dr. Ben Pierce, Chair, Baylor University, P. O. Box 97344, Waco, TX 76798. Dr. Pierce may also be reached at (254) 10-4288.

I have read and understood this form, am aware of my rights and my child's rights as a participant, and have agreed to have my child participate in this research. A copy of this consent form will be provided by the researcher for my files.

Child's name (please print)

Parent/Guardian signature

date

APPENDIX B

Heathington Attitude Scale-Intermediate Scale
by Betty Heathington

Name_____

SD = Strongly Disagree

D = Disagree

U = Undecided

A = Agree

SA = Strongly Agree

1. You feel uncomfortable when you're asked to read in class.

SD	D	U	A	SA

2. You feel happy when you're reading.

SD	D	U	A	SA

3. Sometimes you forget about library books that you have in your desk.

SD	D	U	A	SA

4. You don't check out many library books.

SD	D	U	A	SA

5. You don't read much in the classroom.

SD	D	U	A	SA

6. When you have free time at school, you usually read a book.

SD	D	U	A	SA

7. You seldom have a book in your room at home.

SD	D	U	A	SA

8. You would rather look at pictures in a book than read the book.

SD	D	U	A	SA

9. You check out books at the library but never have time to read them.

SD	D	U	A	SA

10. You wish you had a library full of books at home.

SD	D	U	A	SA

11. You seldom read in your room at home.

SD	D	U	A	SA

12. You would rather play after school than read.

SD	D	U	A	SA

13. You would rather watch TV than read.

SD	D	U	A	SA

14. You talk to friends about books that you have read.

SD	D	U	A	SA

15. You like the room to be quiet so you can read in your free time.

SD	D	U	A	SA

16. You read several books each week.

SD	D	U	A	SA

17. Most of the books you choose are not interesting.

SD	D	U	A	SA

18. You don't read very often.

SD	D	U	A	SA

19. You think reading is work.

SD	D	U	A	SA

20. You enjoy reading at home.

SD	D	U	A	SA

21. You enjoy going to the library.

SD	D	U	A	SA

22. Often you start a book, but never finish it.

SD	D	U	A	SA

23. You think that adventures in a book are more exciting than on TV.

SD	D	U	A	SA

24. You wish you could answer the questions at the end of the chapter without reading it.

SD	D	U	A	SA

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