

A STUDY OF THE EFFECTS AND ATTITUDES OF
FOURTH GRADER STUDENTS USING A COMPUTER ASSISTED
INCENTIVE READING PROGRAM,

MASTER'S PROJECT

Submitted to the Department of Education
University of Dayton, in Partial Fulfillment
of the Requirements for the Degree
Master of Science in Education

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July, 1992

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CHAPTER I

INTRODUCTION

Background

This study takes place in an elementary school with an urban/suburban setting in southwestern Ohio. Kindergarten through 6th grade is represented in all six of the elementary schools within the district. Enrollment is 342 students, with most of them considered at-risk. Characteristics of these students include: low socio-economic backgrounds, single parent homes, 65% minority enrollment, low self-esteem, and transient. One fourth grade classroom with 23 students: 6 girls and 17 boys will be the isolated group to be monitored.

A study will be conducted on the commercial reading enrichment program entitled The Accelerated Reader (ReadUp Inc., 1986) This is an individualized, literature based program for grades 2 through 12. The program uses a unique combination of computer-assisted-instruction and incentives.

Many students in this public school read below their grade level norm, as calculated from The California Achievement Test. This is the standardized test which this district has chosen to utilize. A pattern of this behavior has formed over a period of years. Despite new techniques by teachers, student's achievement especially in reading comprehension, has not increased.

Justification

According to the New York Times, May 3, 1992 addition, the United States has an average of 17 to 21 million people, nationwide who cannot read. An estimated 13 percent of American adults are either illiterate or functionally illiterate. To confirm this information, The World Almanac and Book of Facts 1992, has reported in 1989 the percentages of population in the US completing four years of high school, and divide this category into the black or white race the numbers are closely related. In 1989, 39.1 percent of the white race completed four years of high school, while 38.5 percent of the black race closely followed. Finally, when we look at the college statistics, 21.8 percent of the white population has completed four years of college, while only 11.8 percent of the black race has completed this same amount. Other statistical data can be added, for example, to include the students who have only completed a portion of the four years of high school. What is left? What is left out is the 28.6 percent dropout rate of high school students completing four years within the United States. This is more than one-fourth of our total youth.

The dropout rate is caused by a variety of circumstances, yet we do know illiteracy is one facet. A percentage of this

illiterate rate can be avoided with proper exposure, motivation and education.

Reading is one of the most critical subjects in school, and a necessity in life. Students with low reading and comprehension levels are effected in almost every subject area in school. Low reading scores will result in low grades in most subject areas. This has been particularly evident at this elementary school through standardized test scores, specifically, the California Achievement Test.

After recognizing the most critical reasons for this study, there are also several underlying facts. One fact is that our world is depending more each day on technology, especially the use of computers. A program like The Accelerated Reader gives students an opportunity to interact with computers. It is a positive way for young students to begin using the computer and basic computer skills.

Recording test data is easy as a result of a built in data management system. Data is recorded and statistics are calculated. This data may be either viewed on the monitor or printed. The teacher also serves as a positive role model, that is, utilizing a computer to store organized, current data. Students observe as computers are used to increase efficiency and productivity.

Standardized test scores were mentioned as one form of

identifying students with deficiencies. For example, this school administers the California Achievement Test to grades 2, 4 and 6. Within the analysis of the test data, each student will be compared with other students at their same grade level across the country. A percentage will be assigned to each individual representing their results. These percentiles are then averaged for each classroom, again for each grade level building wide, and then again by grade level district wide.

Beginning in 1991, Standardized Test scores from neighboring districts have been analyzed and published in local newspapers and journals. One of the largest effects of this may be on enrollment in individual school buildings or even an entire school district. This is possible because of Senate Bill #170. Effective July 1, 1993, open enrollment, or the placement of students in schools by means other than residential districting will be available for all public schools. These provisions will be mandatory for all inter-district (in the same district) schools, providing availability of space. Individual districts will have the option to vote as to assigning their district to intra-district (neighboring district) exchanges.

Senate Bill #170 has both advantages and disadvantages. However, when we look at this particular district, and this particular school, this bill has potential power to decrease

student population in individual buildings, and in the worst scenario, an entire school district.

If the Accelerated Reader Program can help these at risk students increase their reading comprehension levels, achievement in other subject areas will also increase. This would be a factor in increasing their standardized test scores, which may play a part in maintaining the current student population levels. Critical skills and reading habits may be formed in young children, preparing them for further years of education. Data from testing analysis and student population are secondary to the multitude of variables which literacy can provide for these at risk children. The Accelerated Reader builds self esteem, and allows students to learn about children's literature and authors while it empowers these children with the most important gift of all, the desire to read. In addition, this program incorporates these significant points, with the knowledge and enjoyment of computer assisted instruction (CAI).

Scope of Project

This study will be compiled using data collected from one fourth grade classroom which is utilizing The Accelerated Reader in their everyday curriculum. Data will be collected over approximately 15 weeks of school.

If this device proves accurate with findings, an increase in student achievement in both reading and comprehension should be visible and significant. Furthermore, if the predicted outcome is produced, higher achievement in other subject areas should follow. All of the above areas are intended to be reached, while also increasing self esteem, computer knowledge, and setting foundations for further educational development.

Definitions

Accelerated Reader: an individualized reading enrichment program based on children's literature. Multiple choice comprehension tests are taken on a computer. Software is available for Apple, MacIntosh, or IBM computers. This program uses incentives and is recommended for grades 2 through 12. Available from ReadUp Corporation, 1989.

Computer Assisted Instruction: a programmed learning approach in which specific educational objectives are achieved through step by step instruction. This also refers to drill and practice and tutorial type computer programs. (Simonson & Thompson)

Computer Managed Instruction: refers to the teacher use of the

computer as a tool to manage instruction in the classroom. This is used to record data and calculate grades. (Simonson & Thompson)

Incentive Reading Program: a program which allows students to receive items such as pencils, notebooks, candy, homework passes or t-shirts for reaching different levels of specified goals.

Limitations

This study will be conducted using information from one fourth grade classroom. Thoroughly, a more detailed study would consist of multiple classrooms at different grade levels.

Ideally, data from one complete school year would be analyzed, but with the time frame available this shortened segment will allow sufficient data for conclusive evidence.

Methodology

At the beginning of the school year, a test will be administered to the students in this fourth grade classroom. This is a multiple choice placement test which accompanies the adopted

district reading textbook. A survey will also be administered to measure student attitudes towards reading.

The Accelerated Reading program will be implemented on a daily basis, along with traditional instruction with the textbook. Reading class will last for approximately 55 minutes per day. The first 15 to 20 minutes of each class will begin with silent reading time--or also called Accelerated Reading time. This is time when all students will be seated reading literature books from the selected book list. Some examples of book and information are listed below. The only exception to this will be those students who have completed their books and are taking a comprehension test on the computer.

Sample of Accelerate Reading list:

<u>No.</u>	<u>Title</u>	<u>Author</u>	<u>Level/Points</u>
166	4b Goes Wild	Gilson, Jamie	5.2/5
401	Adventures of Ratman	Weiss & Friedman	2.7/1
403	Angel in Charge	Delton, Judy	4.8/3
53	Little House..Prairie	Wilder, L. Ingalls	4.8/8
511	Hobbit, The	Tolkien, J. R.	7.2/17
34	Henry Huggins	Cleary, Beverly	4.3/3
710	Last of the Mohicans	Cooper, J. Fenimore	11.0/29

Students will be taking tests throughout the day as they complete books. Anytime the class is in the room, students may

ask permission to take a test. Tests will be conducted at almost all times, other than instructional times.

As tests are taken, the management portion of this program stores all information. This information includes individual access codes for every student and teacher, the total number of tests taken (yearly), the number of points earned (yearly), average of tests which each student passed, the identification number of each book from which a test has been taken, and a rank order of the class calculated by points earned. The process described above will continue throughout the school year.

In addition, approximately every two to three weeks students will be allowed to "spend" their earned points. This includes updating every student's record on a wall chart. This chart will be visible in the classroom, and for every point earned for successfully passing a comprehension test a sticker will be placed beside the child's name. Following the updating of the chart, incentive items will be purchased by individuals with points they have earned. These items may include pencils, pens, highlighters, candy, folders, drink bottles, posters, puzzles, homework passes, and t-shirts. As points are consumed, a line will be drawn through each sticker or point as a visual reminder.

Ideally, the same multiple choice test given at the beginning of the school year will be re-administered at the end of the school year. However, due to time restraints, we will be re-

administering this test and attitude survey at the end of the third quarter.

CHAPTER II

LITERATURE REVIEW

Literature Based Education

Science and technology are greatly responsible for changes in our world over the past decade. From automobiles to microwave ovens these changes are apparent. The field of education is not excluded from these improvements. Tools which were once state of the art have fallen aside for new trends and technology.

New tools for education range from new/revised discipline plans to new or at least identified styles of teaching and learning. Among these new approaches to learning are what might be classified as the anti-basal approach to reading, or the literature methods.

Before students can learn to appreciate literature they must acquire an interest in reading (Logan, 1983). Basal readers do not contain qualifications which are important for young readers to develop this interest. These missing or deficient variables are common of basal stories which are contrived and over simplified. Therefore, most basals result in neither predictable nor well constructed literature, which

do not allow for extensive silent reading practices (Wood and O'Donnel, 1992).

Quality literature is not only important because of these facts alone, but because the reading of quality literature causes development of higher order thinking skills, remembering Bloom's Taxonomy (J. Paul and P. Paul, 1989). (Comprehension, application, analysis, synthesis, and evaluation.)

Students who read for pleasure do better in all of their studies (Fraga, 1991). The Accelerated Reading Program is a literature based program which allows students to reap the benefits of reading quality literature. Many school systems in California have found this program beneficial for their students, as the state emphasizes literature as a basis of their reading programs (Fraga, 1991).

In addition to California's use of literature based approaches to reading, Florida schools find this approach becoming increasingly popular. Paula Harris (1991), the reading specialist from Oak Park Middle School in Leesburg, Florida, has found literature based approaches important because they not only develop reading skill, but also spelling and writing.

Computers In Education

In the age of hand held video games, televisions, VCR's and portable CD players, we are asking our students to sit quietly in rows, watching the teacher, reading the chalk board and completing worksheets. In this dull practice, students loose interest and motivation (Bell, 1992). Former Secretary of Education, Terrel H. Bell believes that technology has the potential to serve as a catalyst to restructure our education system. In fact, he has three recommended steps which he believes needs implemented into every classroom to utilized technology in a 21st century mode. This type of active, daily schedule would be paced quickly enough to hold students attention and it would motivate them to learn. His three recommended steps are listed below:

1. All classrooms should be equipped with a minimum of one computer for every three students.
2. At least one-third of the school day should be spent interacting with a computer-based electronic learning center.
3. Every teacher should have an electronic teaching center or workstation, where they can retrieve student progress on the computer from the center activity.

When a plan of this magnitude is suggested, financial obligations are a large obstacle. However, Mr. Bell believes that the cost of implementing a program as this should not stop progress. In his plan, a school would spread the cost over an eight to 10 year period under a lease-purchase agreement. He believes that our schools are so outdated, this type of technology used in the classroom is inevitable. Ultimately, he believes these "high tech schools" will save money by increasing teacher and student productivity and efficiency. This is not mentioning the benefits of how student attitudes about both school and learning would change.

The use of a laptop computer in the classroom is almost imperceptible, yet like most areas in technology, it has substantial growth development. In Whitesboro Middle School, in New York, (Greenfield, 1990) one classroom has been supplied with laptop computer. This allows the teacher to instruct on many facets of computer technology including database creation and drafting with Computer Aided Design (CAD). In addition to this, laptop computers encourage what is called "Under A Tree Learning". Imagine allowing your students to take their laptops outside and into the woods, where they can sit down and write a poem. With this type of

system, there is no need to wait until you get back to the classroom to begin writing (Greenfiel, 1990).

In Hueneme School District in Port Hueneme, California, a classroom has been developed using the newest technology. This is how the nickname "the smart classroom" came about. All students are pretested to determine where the learning process should start. Units are introduced and students are told of their expectations. One group presentation is made every two weeks, and the remainder of the teachers time is spent with individuals and small groups. Then the curriculum is installed into the classroom's main computer. The software teaches basic objectives. The computer-assisted instruction is completely interactive and individualized. The teachers who implemented this program feel the smart classroom demonstrates the intelligent use of technology and significantly improves both the quality (higher order thinking skills) and quantity of student-teacher interaction.

Teachers from Texas' Spring Branch School District were concerned about the low writing scores achieved by their students on the state mandated skills. These teachers, like many others, turned to the use of computers to help resolve this problem. The use of computers in a program like this is good for both the students and the teachers. The teachers involved in this program united in group effort to develop

plans for achieving common goals (Young and Erickson, 1989). Their efforts paid off when the number of students who achieved mastery increased by 22 percent the following year, and their lab has received local, state and national recognition.

Motivation

As our society changes with broken homes and family problems, the role of the teacher increases at school. Dr. Lee Morganett (1991) has found that a good teacher-student relationship is a necessity. By nature we are attracted to people who care about us. Research has been conducted on the need for humans to be accepted and valued by others (Driekurs, 1968). When teachers care about students, they tend to do two things. One, students try to please the teachers, resulting in less behavioral problems. Two, students are more likely to do what they are asked, resulting in more cooperation and less interruptions.

To support this fact, or to identify the opposite, Doris Blough has also conducted research on a related area. In fact, one article was entitled, "How Language Arts Teachers Help Produce Dropouts." She stresses that language can be frustrating for students and that teachers need to remember

to give the students room to make mistakes. Give them the freedom to shuffle ideas around and draw conclusions on their own.

Most educators agree that students need to be motivated to learn. Locating or isolating particular methods to successfully motivate or at least to stimulate motivation are published by many different authorities, which attribute to some of these new techniques and ideas. David Brown (1986) used stickers as motivation. The use of a token society however, is not a new concept. In 1964, Arthur Staats and other reported the use of toys as reinforcers, while in 1969, Frank Herwett used candy. In all of these cases, most showed significant improvement.

We know why students need to be motivated, and there are many ways in which to do this. As mentioned above, we have the token society. Other educators use humor in their classrooms. One of the newer, and more efficient methods of motivation is the use of the computer. Dr. Wynton H. Hadley, Associate Professor of Education, Fayetteville, North Carolina (1991), suggests making use of computer software to motivate at risk youths. Shelley B. Wepner and other (1992) also found that utilizing computers at a primary level can offer satisfying instructional activities. These

activities, with the correct software can stimulate and expand literature based reading approaches.

At-Risk Students

It is evident that our society has a critical problem with what is called the at risk student. Everywhere we look, whether it be an education journal or the television, we are hearing of or seeing documents which contain the words "at risk student" within them. Some define at-risk as merely a low achiever (Alderman, 1990), while others believe it is much more than just achievement.

Current research is reporting that the use of computers with these at-risk youths are developing positive outcomes. This is one of several different reasons why the use of computers in schools are suggested and recommended. Bialo and Sivin (1989) suggest using computer software that teaches basic skills, creativity and thinking skills. They also believe that the use of computers enhance self-esteem and reduce the dropout rate of these at risk individuals.

The Knowledge Gateway Project is another attempt to combine at-risk individuals with computer and technology. The primary goal of this project is to see if the use of

computer technology can help students develop language skills and as a result increase their intellectual confidence (Jensen, 1991-92). These students at Wenatchee High School in Washington, have used a networked lab which contains MacIntosh computers to learn about sending and receiving messages from bulletin boards, HyperCard, and Microsoft Works. In addition to this, they have utilized Apple Link, Apple computer's online service, and receive messages from other students from Texas, Massachusetts and California. The report on this information shows that these at-risk students have experienced rewarding excitement in this new learning process.

Research has even been conducted comparing results of Computer Assisted Instruction (CAI) with mildly handicapped students in a public school setting (Malouf and others, 1990). This study involved the use of computers in a cooperative learning environment. Despite some negative results from competition for the keyboard and salient game rewards, their results exhibited significant increases in behaviors that were positively related with learning.

CHAPTER III

INSTRUMENTS

Methodology and Evaluation

The Accelerated Reader Program was designed as an enrichment program. As a result of the design, the test group utilized this commercial program in concurrence with their basal reading textbook.

When school started in the fall the Accelerated Reading Program was introduced to the test group. It was explained that this would be an exciting reading program which allowed each student to use the computer. The three step processes was then explained:

1. Choose a book.
2. Read the book.
3. Take a test on the computer.

Accompanying explanation of the program, a computer was made available and the computer procedures were explained. This included proper care and handling of computer and diskettes.

Before this program was implemented a criterion-referenced reading test with 25 multiple choice questions was

administered to the test group. This test is published by Harcourt Brace Jovanovich, and was purchased with our district reading basal. Each grade level has their own version of this test, which provides specific information for the teacher as to each student's ability to perform tasks on their current grade level.

Results of this test were classified into four categories. Each of these categories contains what is called an interpretation according to the following breakdown:

<u>Score</u>	<u>Interpretation</u>	<u>Teaching Suggestions</u>
21-25	Very good reader at this level of the program.	Students scoring at this level should have no difficulty moving on to the next level of this program.
18-20	Average reader at this level of the program.	Students scoring at this level may need a little extra help at the next level of the program.
16-17	Fair reader at this level of the program.	Students scoring at this level may need more help at the next level of the program.
15 or less	Poor reader at this level of the program.	Students scoring at this level will almost certainly have difficulty at the next level of the program.

In addition to the criterion-referenced test or Power Test as Harcourt Brace Jovanovich calls it, students also completed an attitude survey with 15 questions pertaining to their individual feelings about reading. (Appendix A)

Following the completion of this 15 week study, the same criterion-referenced test used as a pre-test will be administered to students along with the same attitude survey as a post-test. The data collected from this sampling will then be correlated and analyzed.

Daily Procedures

Accelerated Reading Time was set aside from the start. Before the classroom began traditional daily reading procedures, each student was expected to read silently from their Accelerated Reading Book. This time may last for 15 to 20 minutes.

To help promote this procedure, each student was issued a bookmark. This bookmark was laminated, orange construction paper (the same color as their basal), which had each child's name written on the top in permanent marker. As students followed directions, which meant silently reading their chosen books, the teacher would place small, round incentive stickers on individual bookmarks. This positive

reinforcement was used to help identify and build on desired behaviors. When students accumulated enough stickers, they would turn it over and fill the back.

Following the silent reading came traditional reading class instruction. Vocabulary was introduced in context. The weekly vocabulary list was written in large letters and placed on the wall for easy visualization by students. Specific skills were introduced or reinforced after completion of the basal stories. When possible, these skills were tied back into the previous story.

Basal stories were introduced to the class and read. The reading method varied throughout the year. Some stories were taped onto a cassette tape by the teacher. In this case the students would read along silently while listening to the tape. Following the completion of the tape, the story would be orally discussed as a group, and students would individually answer comprehension questions on paper.

Some stories were introduced by the teacher, while the students were to remain seated and expected to read silently to themselves. Comprehension questions were also to be answered on paper, individually. This type of instruction was of low interest by students, therefore used infrequently.

With other stories the class would divide up into small

groups of 2 or 3 students. The individuals in the groups would take turns reading orally while the other would follow along, assisting the other student if needed. Groups were also allowed to complete the comprehension questions together, on separate sheets of paper. During this type of session, the teacher would rotate around the room monitoring student groups.

In addition to the above reading methods used with this class, literature in general was orally promoted and discussed. Students were encouraged to discuss their favorite part of a book with the class. Author's were also frequently discussed, while students shared titles of additional books by the same author. Sequels or series of books with the same characters were also discussed and identified.

When a student had independently completed a book from the Accelerated Reading List and was ready to test, they would raise their hand and ask for permission from the teacher. Testing was allowed anytime throughout the day when the teacher was not instructing. This includes in the morning before attendance, during seat work, some students would even asked to stay in from recess to take a test.

Students were encouraged to read their Accelerated Reading books whenever they had a few extra minutes. This

includes before announcements in the morning, and after completing in class assignments. In addition, students were encouraged to read at home nightly and especially over the weekends.

For an extra boost of excitement, when the teacher orally read to the class, she would choose a book from the Accelerated Reading List. These were generally longer books, and books which were on or above reading level of the class. Because of the lengths of these books, it was not uncommon for it to take one to two months to complete. When the book was finished each child was permitted to take a comprehension test on the computer to test their listening skills.

CHAPTER IV

DATA RESULTS

The following data was collected from both individual students and the classroom as a whole over a 15 week period. A wide variety of data was collected, making many variables to be measured.

Attitude Survey

Pre and Post Attitude Survey Results are displayed in Table 1. (Survey, Appendix 1). It is clear that student attitudes have changed between the pre and post surveys. With a total of 15 questions in the survey, each question had three possible responses: Yes, Don't Know, or No. A total of 45 responses were possible. Out of this 45, only four responses remained the same, or had the same number of students choose a particular answer in both the pre and post survey.

Table 1
READING ATTITUDE SURVEY

	Pre Survey			Post Survey		
	Y	?	N	Y	?	N
1. I like to read.	15	5	2	19	2	1
2. I like our reading books at school. ...	11	7	4	11	9	2
3. I like to pick our books at the libra to read.	22	0	0	19	2	1
4. I think reading is the most important subject in school.	7	3	12	8	7	7
5. I read at home.	11	5	6	11	7	4
6. I get good grades in reading.	12	5	5	5	14	3
7. I like to read library books in my free time.	10	4	8	13	5	4
8. I like it when we have silent reading time everyday.	9	1	12	19	3	0
9. I choose books from the library but do not read them.	8	3	11	5	5	11
10. Reading is fun to me.	9	4	9	13	6	2
11. I like to read aloud in class.	7	2	13	11	3	8
12. I like to read in small groups with my friends.	19	1	2	18	1	3
13. I usually don't understand what I read	12	4	6	6	6	9
14. I like to listen to the teacher read to the class.....	20	0	2	17	5	0
15. I like to read books that are really easy for me.....	3	5	4	14	3	5

Y = Yes
? = Don't Know
N = No

Question number one which stated "I like to read." had four students change their mind or attitude. Fifteen originally said "yes", while in the post survey 19 students replied "yes".

Question number seven which states "I like to read library books in my free time." In the pre survey ten students replied "yes", while 13 said "yes" in the post survey. In addition to this, in the pre survey eight students said "no" to reading these library books in their free time, while post survey results indicate half as many responded the same. Only four replied "no".

The question with the greatest significant change was question number eight, "I like it when we have silent reading time everyday." Pre survey results show only nine students replied "yes", while 19 replied "yes" after implementation of the Accelerated Reading Program. There was also a great change in the no responses. Pre survey shows 12 "no" responses, compared with zero "no" responses on the post survey.

Both questions number 11, 13 and 15 show substantial positive changes in student attitudes. Altogether, nine questions show positive changes in attitudes, three questions show basically no change, while three question show a negative change in attitude.

Reading Comprehension Results

Table 2 looks at the testing too 1 which was utilized as a measurement in reading comprehension. The pre-test was administered before The Accelerated Reading Program was introduced and adopted by the classroom. The post-test was administered after the 15 weeks of data collecting. Both raw scores and percentages are displayed on this table, along with the percent of increase between the first and second test. The class average and standard deviations are also represented in this chart.

Two pie graphs have been created in Table 3 to demonstrate exactly how many more students received higher scores on the post-comprehension test when compared the pre-comprehension test results. There were 25 total questions in this test. All raw data from these two tests were compiled into two pie chart, one pre test results, the other post test results. These results were rounded into 5 point increments as follows:

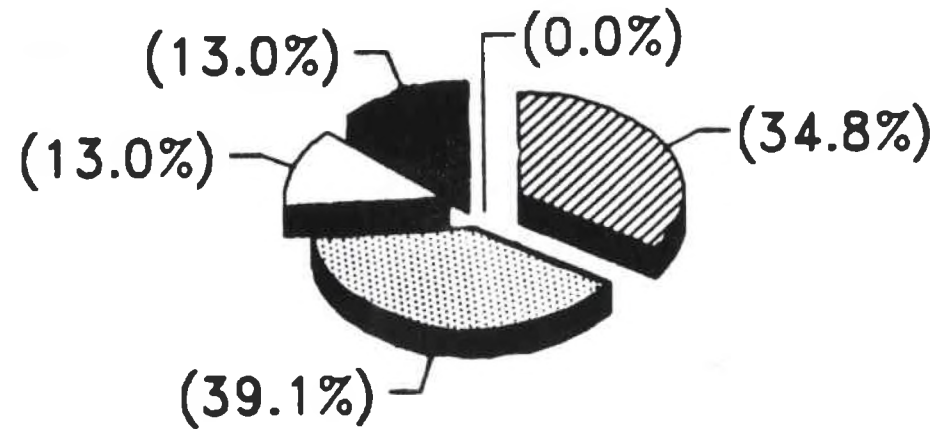
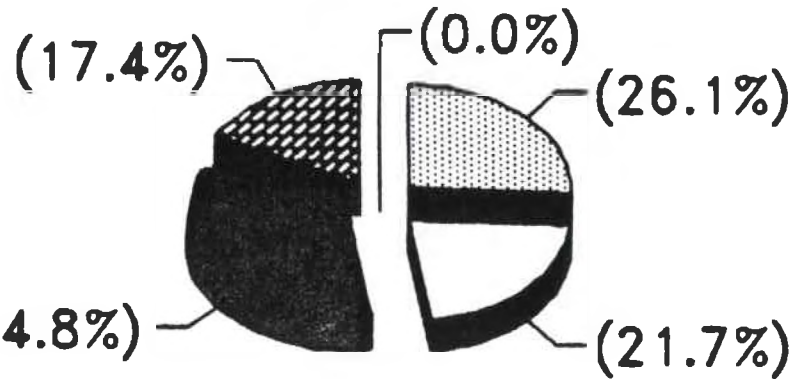
- 1) 20 to 25
- 2) 15 to 19
- 3) 10 to 14
- 4) 5 to 9
- 5) 0 to 4

Generalizing Pre and Post Comprehension

Table 2

Pre Test

Post test



Responses Out of 25 Questions



Table 3

PRE AND POST COMPREHENSION TEST RESULTS

Students	Raw Pre-test	Percent Correct	Raw Post-test	Percent Correct	Percent of Increase
A	3	12%	6	24%	12%
B	4	16%	14	56%	40%
C	9	36%	14	56%	20%
D	17	68%	25	100%	32%
E	2	8%	7	28%	20%
F	15	60%	23	92%	32%
G	6	24%	12	48%	24%
H	12	48%	19	76%	28%
I	16	64%	22	88%	24%
J	2	8%	8	32%	24%
K	8	32%	20	80%	48%
L	16	64%	24	96%	32%
M	8	32%	18	72%	40%
N	17	68%	23	92%	24%
O	9	36%	17	68%	32%
P	18	72%	24	96%	24%
Q	16	64%	23	92%	28%
R	11	44%	17	68%	24%
S	9	36%	17	68%	32%
T	13	52%	21	84%	32%
U	12	48%	20	80%	32%
V	10	40%	19	76%	36%
W	9	36%	16	64%	28%

Average	10.52	42%	17.78	71%	29.04%
Count	23	23	23	23	23
Standard Dev.	4.99	0.20	5.52	22.07%	7.74%
Maximum	18	72%	25	100%	48%
Minimum	2	8%	6	24%	12%

Individual Comprehension Tests

The following data was readily available for the classroom teacher at anytime as a result of the built in management portion on the Program diskette. The information is as follows:

- 1) Student Names
- 2) Individual I.D. codes
- 3) Total number of tests taken for each individual student and the class average
- 4) Percent of test scores which students passed (must receive 60% or more to be averaged into this figure)
- 5) Total points earned for each individual student
- 6) Each student is assigned a number for rank order

In the following Table 4, information will be classified with all of the above data including personal I.D. codes. These codes have no correlation with individual scores, and were only created as a way to access information within the program.

Table 4

CLASS READING SUMMARY

***** READING SUMMARY *****

Student's Name	ID Code	Tests Taken	% Right	Total Points	Rank No.
A.....	BIRD.....	4.....	60%.....	1.....	15
B.....	BALL....	19.....	85%.....	6.....	12
C.....	SOON....	6.....	85%.....	2.....	14
D.....	BOOK....	61.....	88%.....	79.....	1
E.....	TEST....	4.....	100%.....	1.....	15
F.....	ROPE....	7.....	85%.....	9.....	9
G.....	DAVE....	8.....	80%.....	2.....	13
H.....	GOOD....	21.....	80%.....	8.....	10
I.....	FOUR....	11.....	92%.....	7.....	11
J.....	FILE....	14.....	80%.....	7.....	11
K.....	NICE....	9.....	68%.....	10.....	8
L.....	HAVE....	9.....	75%.....	4.....	13
M.....	RULE....	31.....	77%.....	11.....	7
N.....	NEAT....	50.....	83%.....	8.....	10
O.....	RAIN....	23.....	88%.....	10.....	8
P.....	SOUP....	12.....	96%.....	17.....	2
Q.....	BACK....	20.....	87%.....	15.....	3
R.....	SONG....	33.....	69%.....	13.....	5
S.....	TREE....	10.....	81%.....	12.....	6
T.....	WOLF....	20.....	74%.....	17.....	2
U.....	CITY....	7.....	87%.....	13.....	5
V.....	KING....	44.....	67%.....	14.....	4
W.....	IRON....	19.....	77%.....	7.....	4

*****CLASS TOTALS*****

Students on File: 23

Total Tests Taken: 428

Average Tests Per Students: 16

Total Points: 273

Average Points Per Student: 12

In addition to the information format in Table 4, an individual report of student data may also be accessed through the teacher management program. Student names have been replaced here with letters. This identifies all of the information on this chart for one specific student. As an extra feature found in this report, book identification numbers from all tests taken by each child is listed in numeric order. A sample of this information is found on Table 5.

Table 5

INDIVIDUALIZED READING RECORD

D's Reading Record

Tests Taken.....61
 Points Earned.....79
 Average Percent Correct%

Tests Taken (Numeric Order):

5	6	7	19	21	22	24	26	27
28	34	41	42	55	56	72	85	87
152	153	154	157	159	161	164	166	170
171	172	174	176	177	181	183	184	186
187	189	191	192	193	194	197	199	200
402	404	409	410	416	417	418	421	423
424	430	431	438	443	514	906		

Last 4 Tests Taken:

423-30% 443-100% 197-90% 906-100%

Referring back to the reading summary on table 4 depicts information about the quantities of tests taken and the total number of points earned from successfully passing comprehension tests. At this time, Student "D" had taken a total of 61 tests, earning a total of 79 points. Considering that most of the books around the 4th grade level are worth 1 to 5 points, this student has spent a great deal of time reading books and understanding what was read. This student is an exceptional reader, and this table portrays that.

Looking at some different students which have earned more points than tests taken. Student "U" has taken only 7 tests, yet earned a total of 14 points. Student "P" had taken 12 tests and earned 17 points. These examples, along with several others in this sampling reflect the desired outcomes. By analyzing points with tests here we can see these students have generally passed every test taken.

Balancing the great deal of successes with this program, are some negative aspects. Referring to Table 4, student "N", it is evident that this student has been taking random tests which have not been successfully passed. This student has achieved 83%, however, this is only for the test which a 60% or higher was achieved. If a lower percent was received for a test it is not added into this figure. Failing

percentages are only compiled in the total tests taken figure for each student.

Unfortunately there is more than one student with this type of a record. Student "B" had taken 19 test, earning 6 points. Student "V" had taken 44 tests, earning a total of 14 points. These scores demonstrate why this type of a program does need to be monitored by an adult.

There are several reasons for these type of results. In fact, in the very beginning stages of implementation, it was very common for students to fail a test. Many felt as if they could "bluff" their way through a test. Others felt that if they saw the movie, they would be able to pass the test. Charlott's Web is a good example of this. Many felt because they saw the movie last year they would remember the important details. This was not the case. In fact, two teachers who sampled this program when it was purchased also failed the test on Charlott's Webb.

Even though the data was collected at the end of 15 weeks for this report, the classroom continued to implement The Accelerated Reader. After approximately the first four weeks of this program, a turn around was evident within the classroom. Students realized that indeed they needed to thoroughly read a book before testing. In fact, when a student did pass a test, the entire class would stop what

they were doing and clap for them. A testimony for the successful child, prompted by the teacher, informed their peers that you really DO need to read the book in order to pass the test.

Observation of Implementation

Charts and tables are listed in the above information with statistical data collected during this survey. However, observed data and behavioral changes which surfaced during this implementation are equally as important.

As previously mentioned, with any project or program in school, the teacher needs to sell it to the classroom. This is exactly what was done. When students were failing tests in the beginning of this program they became depressed. On a daily basis, the teacher continued to suggest new books to the class and stress the importance of "really" reading a book thoroughly. When a student finally did pass the first comprehension test, the entire class briefly stopped what they were doing and applauded for that child. A testimony from the successful child reinforce the concept of "thoroughly" reading a book. This procedure of recognizing and encouraging successful students continued throughout most

of the school year. In addition to this, students who failed tests were also good examples when they shared with their peers how they "skipped a few pages" during their reading.

As the program progressed, and many more students were successfully passing tests, the teacher continued "selling" or promoting books. One way this was completed was by the teacher orally reading a book to the class which had a sequel. For example, *Tales of a Fourth Grade Nothing*, by Judy Blume, was read orally to the class. During the reading, skills were reinforced (similes, predictions, use of quotation marks). The class found this book so entertaining that when it became known that another book by Judy Blume, *Fudge*, contained the same characters, students started showing up to school with their own copies they obtained from the public library. This worked similarly with books which were written by the same author, which were not a sequel. In this case the teacher read *4B Goes Wild*, by Jamie Gilson. The students enjoyed this, and were excited to locate other books by Jamie Gilson some which contained the same character Hobbie Hanson, and others which did not.

Other observations included students carrying library books everywhere. This means in the hallway while they stood in line for the restroom. Books were occasionally seen being read outside during recess time. Books were at times carried

to lunch and read when the student was finished eating, "to keep me out of trouble" as one student stated. It was not uncommon for a student to ask their teacher for permission to stay in from recess to take a test which they were unable to take that morning.

There was also a small group of students who were not only reading below level, they just did not like to read much. These students came up with their own solution to making this program more appealing for themselves. With permission of the teacher, two students would both check out a copy of a particular book they had chosen, and during the 15 to 20 minutes of daily silent reading time they would pair together somewhere in the classroom and quietly read together.

This was interesting because these are the type of students which usually won't read on their own. However, by becoming friends with a peer whom they could at times help and be helped by, created a need for them. This was not a daily procedure, but it was an option which caused some low achieving, below level readers, to read some good library books.

CHAPTER V

PROBLEM SUMMARY

The United States of America is one of the most technologically advanced, educated, and economically developed countries in the world. With all of these beneficial characteristics in our society, we still have between 17 to 21 million people who are considered illiterate. We have approximately 50 percent fewer African-American's graduating from colleges than we have Caucasian. All of these statistics are in addition to the 28.6 percent dropout rate in high schools. We are far from perfecting our educational system.

These dropout rates and a percent of the low number of African-American college graduates are results of students who are/were considered at-risk. The population of these students is growing and educators need to make significant changes to improve these deficiencies.

The Accelerated Reading Program is an instrument or tool which was used to conduct this study of elementary students with a reading enrichment program. Many of the students

involved were considered at-risk. This can make it more difficult to motivate students, yet extremely important to grasp their interest levels for involvement. Benefits from this program include utilizing popular children literature books, a computer managed record keeper, and incentives for students who successfully pass comprehension tests on the books which were read. If these type of students can be motivated and encouraged enough at an early age, these students may stay interested in learning. If this is capable of happening, these statistics should reduce.

Procedures

The fourth grade students involved in this study were given both a pre test of their comprehension, and a pre attitude survey of their feelings about reading before the implementation of The Accelerated Reading Program. The exact attitude and comprehension tests were administered again after 27 weeks of implementation. The results from both the pre and post testing instruments were calculated and correlated. This information was organized in Tables 1 through 5.

Attitude Results

Calculations show that students attitudes changed significantly after implementing The Accelerated Reader. Table 1, page 27, demonstrates that only four response remained the same on pre and post attitude results. Out of 15 questions asked, nine of these had positive changes, while three questions basically showed no change, and three did show a negative change.

More students stated that they enjoyed reading after they were involved with this program. Post survey results show more students agreed that they liked to read library books in their free time, than the pre survey demonstrated. Ten more students said "yes", they liked it when the class had silent reading everyday. Eleven more students agreed that they enjoyed reading books that were easy for them. All of these responses reflect a positive changes in a childrens attitudes towards reading.

Reading Comprehension Results

A significant increase in reading comprehension test results were obvious after correlation. The 25 possible response were divided into five point increment (Table 2, page 27). Students receiving 21 to 25 questions correct

ranged from zero percent on the pre test, to 34 percent in the post test results. This is a dramatic increase which demonstrated success for The Accelerated Reader Program.

Students who received 16 to 20 correct responses on the comprehension test went from a 26.1 percent in pre test results, to 39.1 percent in post test results. Once again, an overwhelming increase in comprehension.

The next three ranges, 11 to 15, 6 to 10, and 0 to 5, all decreased in the number of students represented. The fourth category, 6 to 10 correct responses, dropped dramatically from a 43.8 percent (pre test) to a 13 percent (post test). In the last category, students who achieved zero to five correct questions out of 25, changed from 17.4 percent on the pre test, to no responses within this range during post testing. All of these changes show a significant increase in reading comprehension.

Table 3, page 28, also portrays pre and post comprehension results. The class average correct on pre testing results was 42 percent. This is compared with the post tests averaged to 71 percent. The percent of increase is a 29.04 in the total comprehension tests. The minimum increase was 12 percent, which was an identified Learning Disability student. The maximum increase was 40 percent.

Conclusions

Results from the pre and post comprehension testing shows a significant increase in 100 percent of the students comprehension levels after implementation of The Accelerated Reader. It is important to note here, that included in this classroom were two students with learning disabilities, one which is developmentally handicapped, and one student which is enrolled in the school districts gifted and talented program. These four students mentioned, are from both ends of the spectrum, yet all of them still had successfully results. Obviously, the students on the lower end of the academic spectrum had a lower percent of increase comprehension that the gifted and talented student, yet they all achieved increases in comprehension--the goal of this project.

The correlation of the pre and post attitude survey shows definite changes in students attitudes. Out of 45 possible responses (15 questions x 3 possible answers), only 4 remained the same for both pre and post survey results. However, three questions did show a negative change in attitude. Overall, there are six more positive changes in attitude than negative.

After compiling and correlating all of the data, and observing the changes in student behaviors, The Accelerated

Reading Program has been a positive influence on this classroom. This program has also proven successful with not only the average students, but the learning disability, developmentally handicapped, and gifted and talented students. Realizing that through implementation of other reading programs would also reflect growth in reading ability and comprehension, this study is limiting to whether the traditional approaches to reading would have the same results, or whether they would be increased or decreased. However, the strength of introducing quality literature, and developing habits for these students to go to the library, choosing interesting books on their ability level, and understanding what they have read are difficult to do when you are also trying to keep that group motivated. The attitude survey results show that positive changes have been made in these students attitudes towards reading. This, I do not believe would have happened with the basal textbook approach to reading.

Recommendations

The sampling which was used in this study depicts only a fraction of the years progress. As the school year

progressed, so did the attitudes and the number of books successfully read by students. For the purpose of this report, information on reading records (Table 4 and 5, pages 30 and 31) was stopped after 15 weeks of implementation. A more accurate study would include information from the entire school year, with a variety of grade levels participating. Also, a comparison with classes of the same grade level using only traditional methods of reading, compared to classes utilizing The Accelerated Reader as an enrichment program would also be an appropriate study of results.

This program portrays much independence on the students part, but like so many other educational programs, still needs persistence and guidance by an adult. Data show (Table 4, page 30) that several students were randomly and unsuccessfully taking tests on books which were not read. Student N, at this point had taken 50 tests, yet only accumulated 8 points. Student W had taken 19 tests, only receiving 7 points. Once these students were identified, a class discussion discouraging this topic occurred, and the teacher monitored testing more closely. In addition, the teacher made challenges for the students by making bets with them, and even shaking hands to confirm. This was very encouraging for them, and more books were successfully passed.

One of the most important points to remember with a program like this is to have fun. The teacher's attitude influences the students. The Accelerated Reader Program lends itself perfectly to encouraging students, challenging the students who need it, and setting individual goals with other. There are many opportunities at your finger tips with The Accelerated Reader. This program has many applications, and with the appropriate supervision and influences by the teacher, has the basis for almost unlimited learning.

Appendix A

NAME _____

READING SURVEY

DIRECTIONS.

Circle one answer for each statement.

- | | | | | |
|-----|---|-----|---|----|
| 1. | I like to read. | YES | ? | NO |
| 2. | I like our reading books at school. ... | YES | ? | NO |
| 3. | I like to pick our books at the library to read. | YES | ? | NO |
| 4. | I think reading is the most important subject in school. | YES | ? | NO |
| 5. | I read at home. | YES | ? | NO |
| 6. | I get good grades in reading. | YES | ? | NO |
| 7. | I like to read library books in my free time. | YES | ? | NO |
| 8. | I like it when we have silent reading time everyday. | YES | ? | NO |
| 9. | I choose books from the library but do not read them. | YES | ? | NO |
| 10. | Reading is fun to me. | YES | ? | NO |
| 11. | I like to read aloud in class. | YES | ? | NO |
| 12. | I like to read in small groups with my friends. | YES | ? | NO |
| 13. | I usually don't understand what I read. | YES | ? | NO |
| 14. | I like to listen to the teacher read to the class..... | YES | ? | NO |
| 15. | I like to read books that are really easy for me..... | YES | ? | NO |

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