

Improving Students' Abilities to Read
and Their Attitudes Toward Reading
Using the Accelerated Reader Program

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Research Question

Will consistent use of a motivational reading program such as Accelerated Reader, led by the school's media specialist, impact students' reading achievement and their attitudes toward reading?

Does high achievement in the Accelerated Reader program translate into improved reading ability as measured by reading lexile scores on the Scholastic Reading Inventory (SRI)?

Rationale

A large number of students in elementary schools are reading below their grade level (Morrow, 1996). Jim Trelease, author of The Read-Aloud Handbook (2001), says that when students are motivated to read, they will read more books and, in turn, grow as readers. "The more you read, the better you get at it; the better you get at it, the more you like it; and the more you like it, the more you do it. The more you read, the more you know; and the more you know, the smarter you grow."

Lakeview Elementary School, located in urban Miami-Dade County, has 560 students, pre-kindergarten through fifth grade. The student population is 78% Haitian and Black American, 21% Hispanic, and 1% White Non-Hispanic. Ninety-eight percent of these students are on free and reduced lunch, signifying a low socio-economic neighborhood. Currently, 68 percent of these students read below grade level, as measured by the SRI (Scholastic Reading Inventory). The impact of these children's low reading levels is felt in all academic areas. If they are not supported to improve their reading skills, their academic problems will continue to escalate in middle and high school. Students must be stimulated to develop a love of reading, so that they become better readers and are able to improve their reading fluency and comprehension, and acquire new vocabulary – all benefits enjoyed by avid readers (Lindt, 1995).

As educators, we are always striving to motivate our students to learn. We are constantly looking for new and innovative ways to increase student achievement. We all share the same concern that some students are not motivated to read and are not developing lifelong reading skills. Many educators, according to Keller (1998), are finding that computerized reading management programs are a good resource for helping to foster a love of reading, and increased comprehension, among their students. One of those programs, a computerized reading motivational program, is the Accelerated Reader, or AR program.

Background/ Context

This year, I encouraged the Lakeview staff to promote the Accelerated Reader program as a motivational supplement to the regular reading program. The Accelerated Reader program is a computerized management system of literature based reading. The goal is to increase reading practice for students while giving teachers information about the books read and the comprehension level attained by students. Reading levels of each book included in the program are calculated according to the Fletch - Kincaid readability index (Advantage Learning System, 1999).

As the media specialist, I was in charge of overseeing the program. I structured it so that the classroom teachers had no additional responsibility with the program. I held an in-service session to explain the program to all the teachers. Included in my presentation was an explanation of the reports the program generates and their meanings. I held workshops with all the second- through fifth-grade classes that were to be included in the program, using overheads to explain the program and how they would use it independently.

In October 2001, I administered the S.T.A.R. reading test to all of the participating students. This test measures students' reading comprehension through computerized testing. The focus is on the measurement of reading improvement.

The test establishes an instructional level, a grade equivalency, and an independent reading level. The instructional level is the reading level at which the students can recognize words and comprehend material with assistance. It represents the highest level at which the students demonstrated at least 80 percent proficiency on the grade equivalency. The Independent Reading Level (IRL) defines the reading level range from which the students should be selecting books in order to achieve optimal growth in reading without frustration. The Independent Reading Level gives a range that can be used as a guide for selecting Accelerated Reader books at a level at which the students' reading practices are challenged by being exposed to new vocabulary and concepts that build upon what they know and move them toward skill development.

The Accelerated Reader program is designed to encourage students to work independently. After they take their S.T.A.R. test, I run the reports and assign them their IRL. They go to the Media Center during their class time or during open library and check out books on their level that they wish to read. They may choose fiction or non-fiction, but they are encouraged to try both genres. I color-code the books according to IRL levels, so students only need to look for the correct color dot on the spine of the book.

They began in October by checking out two books at a time. By mid-year, most students had progressed to five to 10 books. Each time I set a new limit, the students renegotiated for more!

The students read their books independently, at their own pace, and then go to the computer to take an Accelerated Reader comprehension test. At the completion of the

test, students receive immediate feedback in the form of a computer printout congratulating them if they passed, or telling them that they did not pass. The correct answers are given to the questions the students missed, so they can see their mistakes.

Motivation is a large part of the Accelerated Reader project. According to Trelease (2001), there is ample evidence that many children do not like to read and find it boring. They haven't discovered the intrinsic rewards of print. If they were only first graders, one could argue for patience. But many of these bored readers are in secondary school – they've had seven to 12 years worth of "intrinsic" but seem to have made little progress. Our hope was that by reading for incentives the students would get good enough at reading to find it a pleasure. The pleasure, in turn, might bring the skill development that they seem to have missed. At my school, I created reward steps that were explained to all the students. Each teacher was given a class chart and colored stars. Every time students passed a test successfully, they gave their reports to their teachers and a star was placed next to their name.

After accumulating five stars, the student is presented on morning announcements on closed circuit television, given a "Super Reader" pencil, and photographed for the bulletin board. When students passed 10 tests they were allowed to choose a paperback book from three baskets of assorted titles and levels. After passing 15 tests, the students were presented with a Super Reader T- shirt that says "I'm a Super Reader at Lakeview Elementary School," which they can wear every Monday. When students passed 20 quizzes, they were encouraged to go into the special "Bear Box" and choose a hardback book. Thirty books read and quizzes passed entitled the students to go into the "Treasure Chest" and choose their reward from a selection that included specialty books, tapes, calculators, educational games, videos, and craft items. Each 10 quizzes passed after 30 entitled them to another chance at the treasure chest. These prizes were purchased with money I received from two grants that I wrote, money from my school's Educational Excellence School Advisory Council, and also money from my own wallet, totaling approximately \$2,800.

Every Monday morning I ran a diagnostic report from the Accelerated Reader for each class. On closed circuit morning announcements, the total number of books read and quizzes passed was announced for each class along with a school weekly total. This encouraged competition among the classes and the grade groups.

On Tuesday mornings, the names of the students that passed to a higher reward level were announced and the students came down and appeared on television. After announcements they were given their rewards. By using books for rewards we wanted to send a message to the students that books are important. The t-shirts were used to stimulate conversation about Accelerated Reader and to encourage kids to earn a shirt to wear every week.

The weekly Accelerated Reader diagnostic reports were also used to analyze the progress of each student. I looked at the number of tests taken, the number of tests passed, and the reading level. I spoke with each student who was failing a large number of tests, to analyze the reason. They may have been reading on the wrong level, or they may have just not been ready to take the test. We discussed the difficulty of the book, how fast they read, if they were prepared to take the test, whether they concentrated on the test questions, and whether they should have read the book again before going to take the test. Then we decided if their reading level needed to be lowered.

Review of literature

Many of the studies done on the Accelerated Reader program showed positive outcomes regarding student achievement and attitudes toward reading. In a largely qualitative study using observations, surveys, and questionnaires, McKnight (1992) focused on a population of at-risk readers using Accelerated Reader. He found AR to be associated with improved attitudes toward reading among 17 fifth-grade students.

Paul, Vanderzee, Rue and Swanson (1997) compared approximately 2500 Accelerated Reader schools with 3500 schools that did not use Accelerated Reader, matching experimental and control schools for socio-economic status. The Accelerated Reader schools performed at higher levels in reading in all grades except sixth and tenth. The improvements were most apparent in urban and low socio-economic areas.

In a 1997 research study, Paul found that the Accelerated Reader program had a significant positive impact on students' academic performance. Paul (1996) found that schools with the Accelerated Reader program, compared to schools without the program, showed a significant improvement on virtually every subject test. Higher attendance rates and overall academic performance were attributed to the Accelerated Reader. He concludes that the Accelerated Reader is an effective tool in stimulating increased reading and that increased reading will lead to higher academic success.

In a major study conducted in Tennessee, Accelerated Reader data on 62,739 students from grades three to eight were merged with the Tennessee Value-Added Assessment System (TVAAS) teacher-effects database, and relationships between these independently obtained measures were explored. (Sanders & Topping, 1999) In analysis at teacher and student levels, there was a consistently positive and statistically significant relationship between increased number of books read and value added in grades three to six. There was also a consistently positive relationship between the percent of Accelerated Reader questions answered correctly and value added across all grades.

In a review of Accelerated Reader research studies, McPhatter (1993) reported both positive and negative aspects of the program. As negative aspects, he claims that

achievement gains attributed to Accelerated Reader are often of an anecdotal nature, and that no control or comparison group is represented in many studies. Further, he notes that the program limits the students' choice of books to those titles on the AR list, and that these lists vary from school to school.

Results from diagnostic tests merely reveal number of books read, percentage of questions answered correctly, and points earned. On the positive side, he notes the fact that the program motivates children to read, includes a wide variety of books that can be purchased for each school, and participation is optional. Another plus is that Accelerated Reader diagnostic reports from the reading quizzes monitor comprehension.

The question is, how can teachers possibly closely monitor the day-to-day reading behavior of all their students, check to see if this behavior is optimally effective, and if it is not, intervene to make it more effective? Computerized learning information systems for reading, such as the Accelerated Reader, seek to provide teachers with a tool for achieving this daunting task.

Tools

I focused my study on the four fifth-grade classes at Lakeview Elementary School. Quantitative data was collected using SRI Reading Lexile scores from 2000, 2001, and 2002, and compared students' annual growth in reading ability when they did not use the Accelerated Reader program (2000 to 2001), to their growth when they did use the program (2001 to 2002).

Qualitative data were collected through open-ended student and teacher surveys. I created these surveys and gave them out in May to all of the classroom teachers participating in the Accelerated Reader program, as well as to all of the students in the fifth grade.

Data

The following information is the presentation of all the data collected.

The SRI Lexile reading scores for the current fifth graders from 2000, 2001, and 2002 were charted and compared. The average gain in reading lexile scores was found for each class before and after the implementation of the Accelerated Reader program.

I gave out 112 student surveys to fifth-grade students; 99 surveys were returned. Of those returned, 94 students participated in the AR program during the year, and five chose not to participate in AR. I administered the 15-question survey to each fifth-grade class, going over the directions orally and then allowing the students as much time as needed to complete the questions. The surveys were done anonymously so the students could be completely honest.

Fifteen teacher surveys were given out to the teachers in grades two through five, and 13 were returned. All these teachers were involved in AR and they all said they considered it to be a positive addition to our reading program. I did find that the most successful classes were given encouragement from their teacher.

Using the SRI reading lexiles I was able to compare 2000 with 2001 and 2001 with 2002. The 2000 - 2001 scores show students' annual reading gains when AR was not a part of their school day.

The 2001 - 2002 scores show the annual reading gain when AR was used. **In all four classes, reading gains were significantly higher than gains from the previous year.**

In class A, reading scores increased by an average of 62 points in 2001, and 223 points in 2002. In class B, reading scores increased an average of 72 points in 2001 and 206 points in 2002. Class C increased their reading scores 39 points in 2001 and 168 points in 2002. In class D the reading scores increased by 74 points in 2001 and 132 points in 2002. The fifth-grade students showed much larger increases in 2002, with each class more than doubling their score.

CLASS	SRI READING LEXILE 2000 AVERAGE	SRI READING LEXILE 2001 AVERAGE	GAIN Without AR AVERAGE	SRI READING LEXILE 2001	SRI READING LEXILE 2002	GAIN With AR
A	394	456	+ 62	456	679	+ 223
B	458	530	+72	530	736	+206
C	529	568	+39	568	736	+168

D	464	538	+74	538	670	+132
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Teacher Survey

I sent out 15 teacher surveys and 13 were returned.

1. What have you noticed about students' attitudes toward reading?
They are very excited / more motivated about reading since we started AR – 7
They look forward to checking out books from the media center - 5
Students perform for prizes and notoriety – 1
2. Do you see changes in their reading habits?
They read more on their own time – 8
They are checking out more books – 4
Non- readers became more involved - 4
3. How often do you have silent reading?
Daily for 20 – 40 minutes – 6
Three to four times a week – 5
4. Have your students progressed to higher level books?
Yes/ definitely – 11
Some – 2
5. Are students able to access and complete the AR program independently?
Yes – 13
6. What are the benefits of the Accelerated Reader program?
The students are motivated – 8
Doing far more reading – 6
Increases their self – esteem – 4
Incentives are good/ gets them excited – 3
Students read on their own level – 6
7. What are the negatives of the AR program?
Need more AR books – 4
Students don't take tests seriously – 2
Students don't stick to levels – 2
8. Should we continue the AR program next year?
Yes -/ definitely – 13

9. Is there anything else you would like to share?
The children learned to enjoy reading
The program is very beneficial

I sent out 112 surveys to our fifth-grade students, and 99 were returned. Ninety-five percent of these students are participating in the Accelerated Reader program – reading stories and passing the computerized comprehension tests for more than 5, 800 books. *(Questions 1 through 3 asked if the student participated in the AR program, how many books had been read, and how many quizzes passed. Aggregate responses to those questions are reported elsewhere.)*

4. When do you read?
At school – 31
After school at home - 36
When I have free time – 32
5. Where do you read?
In class - 49
In the media center – 19
In my room – 40
Anywhere – 15
6. What kinds of books do you read?
Non-fiction – 23
Fiction – 50
All kinds – 38
7. How do you decide what to read?
By the cover – 46
The summary on the back – 30
Skim the book – 13
Recommendation – 18
8. How do you feel about the Accelerated Reader Program?
I love it – 39
It's fun – 24
Very good – 31
Don't like it – 5
- Why?
Makes us smarter – 15
Helps us read better – 33
Get prizes – 4
I love to read – 20

Fail tests – 4

9. How do you feel about yourself as a reader?

I am proud – 29

I can read better – 25

Great – 41

Not very good – 4

10. Do you like to read?

Yes – 94

No – 1

Sometimes – 4

11. Are you a good reader?

Yes – 92

No – 7

12. Are you a better reader now than you were at the beginning of the year?

Yes – 95

No – 4

Why?

I became a better reader – 40

I read more books – 29

It's fun to read – 26

I don't read a lot – 4

13. Has the AR program helped you become a better reader?

Yes – 92

No – 7

Why?

Helps me understand books better – 35

I changed to harder levels – 30

I read more – 15

I like myself – 15

I haven't tried to make it work – 4

14. The thing I like the most about the Accelerated Reader program is:

Have fun reading – 26

Become a better reader – 26

When I pass the test I feel proud – 22

I like the books – 15

The prizes/ getting on TV – 12

15. The thing I like the least about the Accelerated Reader program is:

I like everything – 35

Failed the test – 10

The books are hard – 4

Can't take the test more than once - 4

Analysis of Data

The overall data of the student survey show that the students enjoyed participating in the Accelerated Reader program. **Some read more than others, but 94 fifth-grade students read and passed the comprehension test for more than 5,800 books in the seven months the program ran.** The majority of the students, 95 percent, had positive feelings about the program. They loved it, they said, because it helped them become better readers, and they began to develop a love of reading.

Only five percent of the students wrote that they worked mainly for the prizes. Ninety-five percent felt positive about themselves as readers, feeling proud of themselves because they read better than they did at the beginning of the year.

Anthony is a fifth-grade student who was reading on a second grade level. After I ran my second weekly report, I noticed that he was not passing all his tests, so I discussed this with him. After answering some questions, I realized that Anthony was upset that he was on a low level. I knew that I could not move him to a lower level because that would have worked against his developing the high self-esteem that we were aiming for.

Instead of carefully reading and understanding his books, he was rushing through them just to say he had finished. Then, when he failed the comprehension test, he felt even worse about his reading ability.

Together, we decided he should use a reading partner, another student who was willing to listen and encourage his reading. Anthony suggested some classmates that he knew were good readers, and after speaking with them he and Kevin decided to become partners.

Week by week, Anthony began to improve his reading and his self-confidence. After a few months, he no longer needed the extra help of a partner. I monitored him weekly, moving him up as he was ready. Now he is reading on a fourth-grade level and loves to read.

Romelina, an ESOL student who began the year on a first-grade reading level, said, "It helped me read more. I can read better now. I am very happy." She read 125 books and moved up to a fourth-grade level – and you should see her smile!

When asked what they liked best about the Accelerated Reader program, most of the students said they had fun reading, became better readers, and felt proud when they passed the tests. When asked what they liked least about the program, 35 students said they liked everything, 10 disliked failing the test, and 46 did not answer. When asked about leaving that question blank, all the students replied that there was nothing they disliked about AR. Glenda, a high-achieving student on grade level, said "I love the program. It's a challenge and it makes me a better reader. I read 95 books and am now on a sixth-grade level."

Anthony, who was introduced above, didn't begin right away because he "didn't feel like it." He was not feeling confident about himself. But he said, "with Mrs. Price encouraging me, and a reading partner to help me, I began to read the books and take the tests. Now it's fun." Anthony read 46 books and moved up to a fourth-grade reading level.

I sent out 15 teacher surveys and thirteen came back. The overall feeling was that the Accelerated Reader program was a success and should be continued. The teachers said that the students were more motivated and excited about reading since we began the program, and they reported that the students looked forward to checking out books from the media center. They seemed to read more on their own time and are reading different types of books. Their self-esteem has improved. The teachers felt this had to do with the children reading at their appropriate reading level, passing the comprehension tests, and progressing to higher levels. The teachers' criticisms include the fact that we need a larger selection of AR books and that some students do not stick to their levels.

I also noticed this during the year and spoke to those students that either were failing because the books they chose were too hard or the students that passed too many because the books were too easy. I always asked each student if the books they were checking out were on their level, but when I found some were still reading books that were on the wrong level, I made up library cards with their color code to preserve their self-esteem and get them on the proper level. They showed those to me as they checked out their books and the problem was solved.

All 13 teachers enthusiastically voted to continue the program next year. They felt that this motivational reading program was very important to our students. One of the teachers who did not encourage the program in his class at the beginning came to me in December complaining that he could not get his kids to put down their books. They were even reading while walking in the hall. What a great problem!

The teacher and student surveys showed very positive feedback about the motivational reading program and student self-esteem, and the reading lexile scores increased, showing reading gains in all the fifth-grade classes analyzed. Not only is a motivational reading program good for the students, they enjoy it.

According to Jim Trelease (2001), reading is an accrued skill. "The last twenty-five years of reading research confirms this simple formula – regardless of sex, race, nationality, or socio economic background. Students who read the most, read the best, achieve the most, and stay in school the longest. Conversely, those who don't read much cannot get better at it."

Therefore, my conclusion has to be that a motivational reading program, such as Accelerated Reader, is a very important component in the battle to improve students' reading abilities. The survey data suggest that this program increased students' self-esteem by enabling them to succeed at reading on their level and continue to increase their reading levels. Students' attitudes toward reading became much more positive, and as they experienced success they began to enjoy reading. The second- through fifth-grade students participating in this program read and passed comprehension tests for 9,817 books. The teachers agreed that the program is successful and should continue.

This program also contributed to the significant increase in SRI lexile reading scores. However, a motivational program alone cannot take the place of reading instruction. When good instruction is combined with a motivational program such as AR, it appears that students get what they need to be successful.

Future research could include a project to look at the correlation between the number of books read and students' SRI lexile scores. Would the number of books read improve their test scores? I would also like to see a project to study the relationship between involvement in AR and scores on the Florida Comprehensive Achievement Test (FCAT). I feel this would also show an increase in FCAT reading scores. I tried to incorporate this in my project, but could not get the FCAT scores in time. Finally, it would be useful to develop a research project that compares reading achievement at schools that use AR with schools that do not use AR.

Policy Implications

This research could lead school boards everywhere to purchase Accelerated Reader or another motivational program. However, it is important to note that every elementary school in Miami-Dade County has the Accelerated Reader program. That does not mean that it is being used, or used effectively, in all schools. The program is only as effective as its implementation.

In affluent areas the schools may have a larger, broader range of reading materials available to their students. Poorer schools may not have the means to expand their book collection or to purchase incentives for their students.

I believe that the media center is the heart of the school and the media specialist must be a school leader. In my school, I took the responsibility of setting up and running the program in addition to my other responsibilities as a media specialist. I chose to analyze the data and implement the student reward system to excite and encourage the children. I took on all the work and responsibility of the program to make it easy for the classroom

teachers. They could enjoy all the benefits of the program without any additional work. I believe in reading and will do everything in my power to enable my students to develop a love of reading.

In every school there needs to be at least one person willing to facilitate the program. This is a very large job to add to any employees' other responsibilities. Besides having a designated AR leader in the school, it must be pointed out that AR only works with a staff willing to believe in the success of its students.

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