

The Effects of AceReader Pro® Software on Sixth Grade Students' Reading Fluency

Action Research Project

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Conducting action research presupposes the ability to effect change in the classroom. The goal often stated for such change is the improvement of test scores. Teachers are called upon to validate classroom practice based on its efficacy in raising test scores. When examining the causes of low test scores, reading comprehension is seen as a critical factor. The importance of reading skills is highlighted when considering how reading influences all other learning. Green and O'Connell (2007) stated the centrality of reading skills this way: "Literacy competencies are the gateways to knowledge across the disciplines" (¶ 3). This central importance to learning explains independent reading as a research focus in the classroom.

The classroom population for this study consisted of 32 students participating in a self-contained, gifted program. Four students were not included in the study. Of the students in the study, two tested below grade level, 14 tested at grade level, and 12 tested above grade level for independent reading at the beginning of the school year. These measurements were used to direct the independent silent reading portion of the reading program at the school, Accelerated Reader.

In spite of the large number of students testing at or above grade level, some readers in this researcher's sixth grade, gifted class did not read at a rate that allowed them to recall details of a book for an Accelerated Reader (AR) quiz. They described themselves as slow readers, did not enjoy reading, and had even stated directly that they did not enjoy reading. Because other students performed well on AR quizzes and accumulated greater numbers of AR points, these struggling students displayed avoidance behaviors when faced with independent reading. Additionally, these readers struggled to understand and recall concepts from content area texts. The need to support students in their development as competent, fluent readers yielded the

following proposed problem study stated in question form: Can students increase their reading rate and their performance on Accelerated Reader quizzes if they use speed-reading software?

Reading rate is one important factor in reading fluency (Rasinski, 2004; Tompkins, 2003). Readers who read well silently exhibit certain eye movement characteristics. They show a strong preference for right to left eye movement, focus on content area words, regressions are purposeful, and they extract word information from more than one word in the field of vision (Bresner, Risko, & Sklair, 2005; Ducrot & Grainger, 2007; Inhoff & Weger, 2005). The problem, then, is one of improving the silent reading rate, increasing the readers' focus, and transferring oral fluency skills to silent fluency skills.

Students who read more slowly forget what they have read and, therefore, perform poorly on AR quizzes. They do not exhibit the automaticity necessary for fluent reading. Students who are not efficient silent readers often reread text, or regress. They read one word at a time in the same manner as a disfluent oral reader; they do not use the full field of vision when reading. When students read too slowly and do not realize the flow of the text, they do not comprehend well. The lack of fluency and resulting poor performance on AR quizzes sets up a cycle of avoidance and a concomitant downward spiral of a poor self-concept and continued poor performance. Students do not know how fluent silent readers behave and cannot therefore know how to improve. Of special importance to the students' ability to improve the reading rate is the opportunity to practice fluent reading skills. Students who struggle do not practice fluent silent reading skills; they practice disfluent silent reading skills.

Since students respond well to concrete action to remedy a problem, computer software could be used to train students to emulate fluent reader behaviors. Specific, focused training using AceReader Pro® software could show students the eye movements and behaviors fluent

readers exhibit. Training is intended to increase eye fixation and repositioning rates, reduce regressions, eliminate pronouncing words as the student reads, and to increase eye span focus. If students increase their silent reading rates using the software, they could improve performance on AR quizzes. The use of the software could also increase their self-efficacy concepts as they increase their reading rates. Students who believe they are fast readers often also believe themselves to be good readers. This could enhance their self-concepts and confidence.

Research questions:

1. Can practice with AceReader Pro® software increase students' reading rate?
2. Will increased reading rate lead to improved AR quiz performance?
3. Will practice with AceReader Pro® software improve students' reader self-concepts?

Two disparate areas of study were revealed when investigating the possible effects of the use of speed-reading software for classroom use. Fluency studies and eye movement studies both contribute to the knowledge base about students' performance while engaged in independent reading tasks.

In spite of reading fluency being widely held as an important component of effective reading, distance remains between knowledge and practice in teaching silent reading skills. Educators have focused on oral reading skills to access and enhance silent reading skills. Specific, silent reading fluency interventions have not been researched to useful effect. The fields of psychology and psychometrics offer observations of the eye movements of fluent readers, but offer no methods for applying that knowledge to students' silent reading fluency. Students see

reading efficiency in simple terms. They equate reading speed with reading efficiency. To students, fast readers are good readers.

Promoting reading fluency is widely recognized as an important goal of classroom reading instruction. Cunningham and Allington (2007) defined fluency as “the ability to read quickly, accurately, and automatically and with appropriate expression” (p. 57). Tompkins (2003) noted the elements of reading speed, phrase chunking, expressivity, and automaticity as critical to reading fluency. Classroom teachers understand that one of the ultimate goals of reading instruction is effective silent reading. Murray (n.d.) explained the connection between oral reading fluency and silent reading fluency: “Fluent reading is reading in which words are recognized automatically. With automatic word recognition, reading becomes faster, smoother, and more expressive, and students can begin to read silently, which is roughly twice as fast as oral reading” (¶ 1). Rasinski (2004) proposed reading rate as one component of fluency that can give the teacher a picture of students’ reading fluency.

Repeated readings have been studied as an avenue to increasing reading rate and reading fluency. Hapstak and Tracey (2007) found that assisted repeated readings increased the oral fluency of first grade readers with and without disabilities. Paige (2006) studied the effects of repeated reading when an above grade level passage was initially read by a fluent adult. Students were given the opportunity to ask about unknown words. The procedure of repeated reading after hearing the passage read fluently yielded the greatest reading rate gains for students with disabilities (Paige, 2006). Another procedure for repeated reading was studied by Yurick, Robinson, Cartledge, Lo, and Evans (2006). This study of peer mediated repeated readings yielded gains in reading rate as well.

O'Connor, White, and Swanson (2007) compared the effects of repeated readings and continuous readings on reading rate, word recognition, and comprehension. While repeated reading is promoted as an effective technique for increasing fluency in elementary, middle, and secondary education (Rasinski, Padak, Mckee, Wilfong, Friedauer, & Heim, 2005), O'Connor, White, and Swanson (2007) found that there was no difference in the repeated reading treatment versus the continuous reading treatment with the tested second and fourth graders. The study found that students who engaged in repeated reading made similar gains in reading rate to students who read aloud regularly to an adult. Interestingly, while no specific comprehension instruction was part of the study, increases in reading rate did correspond with increases in comprehension. The researchers theorized that this effect was due to increased fluency allowing the readers to "extract meaning from text" (p. 44).

Teachers have been interested in the results of these studies because they show observable gains in reading fluency. Research has demonstrated that oral reading fluency can be generalized to silent reading comprehension. However, little research has been done that focuses on specifically increasing the silent reading rate.

Research on the process of silent reading began in the early 1900's. During this early part of the century, educational researchers tested oral and silent reading rates in school children. After this time, silent reading studies focused on observable eye movements in silent reading. Experts in psychometrics and the field of psychology have replaced educators as researchers in the field of silent reading.

Furthermore, eye movement studies as an indicator of silent reading behaviors have focused primarily on fluent readers. Ashby, Raynor, and Clifton (2005) studied the eye movements of highly skilled and average adult readers. The readers were students at the

University of Michigan. They were tested using a computer screen and sentences containing high and low frequency words. Highly skilled readers' eye fixation time, time spent focused on the high or low frequency word, was less in every case. Highly skilled readers also had fewer regressions, or returns to previously viewed words. The researchers concluded that highly skilled readers fixation time was shorter, and they were more efficient when integrating unknown words when they exhibited regressions.

When considering eye movements during silent reading, researchers have also investigated the reader's field of vision. Investigations have included the relationship between foveal and parafoveal word processing. These studies have attempted to discover to what extent fluent readers simultaneously process adjacent words or parts of words. Ducrot and Grainger (2005) explained the idea behind this understanding of the silent reading process: "Reading is a complex process that involves extracting visual information from a currently fixated word while simultaneously preparing to extract information from peripherally located words in the text" (p. 578).

In a study of the effects of field of vision with and without cuing, Ducrot and Grainger (2005) found a strong bias for word recognition in the right visual field. As college students viewed a monitor, they were presented with high or low frequency words. The words were bounded by eight hash marks (#####) on both or the cued side of the word. Four experimental variations on the procedure were conducted. The researchers concluded that for languages that are read left to right, readers more accurately read words presented in the right visual field.

Bresner, Risko, and Sklair (2005) conducted experiments to test the theory that spatial visual attention is necessary to begin reading. In other words, they tested whether the reader must

focus on the correct space to begin the decoding process. Again, college students were presented words on a screen with and without cues. The researchers concluded that readers must have the correct spatial focus to begin the first steps in reading. Simply put, “early processes in word recognition require visual attention” (p. 105).

The literature on the use of computer assisted fluency practice is focused in the use of a recording as a reading model and closed captioning on the television (Tompkins, 2003).

Attempting to glean information on the use of computers to promote silent reading fluency yielded little current or applicable research. In spite of the push to include technology in instructional practice, educators have been provided little in the way of information or tools.

Only one study was found that detailed the effects of computer software use on silent reading fluency. Waddell (2006) studied the effects of AceReader Pro® software on the fluency of fifth graders. Waddell (2006) reported that the software could be used to practice silent reading fluency by focusing the eye movements of readers. The readers were tested using the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) before the intervention and again after the intervention. Thirty of the 36 students in the study made words per minute gains from December to April (Waddell, 2006).

Since a substantial body of research shows that increased reading rate can lead to increased comprehension, and the eye movements of fluent readers can be defined, classroom time spent on software that attempts to train eye movements during silent reading should be studied. Both oral fluency studies and eye movement studies provide critical information for the educator. We know that increasing oral fluency reading rates leads to increased comprehension (Oakley, 2005). We also know the characteristics and patterns of the eye movements of fluent readers. Appropriate instruction and practice should enable students to improve their silent

reading fluency. Based on this hypothesis, a three week study of the effects of AceReader Pro® speed-reading software was conducted.

When planning to collect data for classroom research, it is important to consider the purpose of data collection. Classroom research necessitates consideration of the students' learning above all other criteria. The students are the seminal impetus for any research idea. Sagor (2000) suggested that teachers who conduct classroom research should strive for high standards in their methodologies in order to protect their students' learning, to influence the profession, and to add to the knowledge base. Levin and Merritt (2006) stated that action research is "a vehicle for professional growth, personal transformation, and improved student learning" (p. 6). Well-conducted research, therefore, benefits students and teachers.

The completed Data Collection Matrix (Appendix A) served as a tool to develop a methodology for the action research project. The AceReader Pro® software had been introduced to the class preceding the three week data collection period. Students were made familiar with the use of the software during this trial period. Students used the software one time per week for 20 minutes, beginning at the third grade level. During the three-week data collection period, the students used the software twice a week for 20 minutes each session, starting at the fifth grade level. The software provides a course of study that starts with a self-paced reading rate test. Each test is followed by a four-question comprehension test. If a passing rate of 75% is not achieved, the student repeats the test. The reading rate, expressed as words per minute (WPM), is then the basis for eye movement drills and games, followed by subsequent reading rate tests. The drills and games are intended to reduce the reader's eye fixation time, reduce regressions, decrease eye re-positioning time, and increase the field of vision (Waddell, 2006). The software attempts to train the reader to mimic the eye movements of fluent readers.

Existing sources of data include the initial reader self-concept survey, initial oral reading fluency tests, word count reports from the Accelerated Reader (AR) program, and AR points earned and average percent correct records for a three-week period before the software intervention. These data sources will be compared to the same measurements at the end of the three-week software intervention, providing important before and after pictures.

A student's beliefs about his or her abilities strongly influences academic performance (Linnenbrink & Pintrich, 2003). Having completed a reader self-concept at the beginning of the year, students will repeat the survey (Appendix B) at the end of the data collection period to assess the impact of the use of the software intervention on their self-efficacy beliefs. The reader self-assessment tool consisted of directions for the students to use at least three of the following words in sentences to describe themselves as readers: okay, good, excellent, need, understand, like, slow, fast, trouble, active, passive, dislike.

Reading rate considered an important measure of reading fluency (Rasinski, 2004; Tompkins, 2003). The oral fluency test and data from the AR program will provide multiple assessment measures of the students' reading speed as recommended by Sagor (2000) for validity and reliability. Again, the data picture will be enhanced by providing before and after pictures.

Data collection occurring during the three-week period includes reading speed tests from the software itself and a teacher observation journal. Data collection at the end of the research period includes a second oral fluency test, a repeat of the reader self-concept survey, another software-based reading speed test, and a parent assessment of student as reader (Appendix B). AR records will also be collected, including points accumulated, average percent correct on AR quizzes, word counts, and points accumulated compared to AR expectancies ("Best Practices That Maximize Reading Growth", 2006) (Appendix C).

The steps for implementing the intervention and data collection are as follows:

1. Locate and compile the existing data sources of the reader self-concept survey, initial oral reading fluency rate, and AR records for a three-week period before the intervention (points, average percent correct, and word count).
2. Students use the AceReader Pro® software program twice a week, 20 minutes per session, following the course of study provided by the software. The course of study begins with a self-paced reading rate test, and then alternates between eye movement drills, games, and reading rate tests. The students will all begin at level five (fifth grade level reading material).
3. Students continue to participate in the Accelerated Reader program according to established classroom procedures, choosing appropriately leveled books for independent reading and taking computer quizzes to earn points.
4. The teacher writes observations of the students' interactions with the software during the three-week period in an implementation journal.
5. At the end of the three-week period, a second oral reading fluency test is administered, the second reader self-concept survey is administered, and the parent assessment of the student as reader is sent home for completion.
6. The final AR records (points, average percent correct, and word count) are compiled for analysis, and words per minute reading rates from the software are gathered.

The project results pointed to the possibility that AceReader Pro® software could help students increase their silent reading rate and, thereby, improve their performance on Accelerated Reader quizzes. The researcher's interactions with the students and anecdotal evidence suggested

more strongly that using the software was of benefit to the students, particularly in the area of self-efficacy.

The initial and final oral reading fluency assessments yielded mixed results. Of the 28 students, 15 increased their oral reading rate in words per minute (WPM). One student exhibited no change, and 12 students decreased their oral reading rates. The greatest increase in the WPM rate was 42 WPM, and the greatest decrease in the WPM rate was 32 WPM. The results of the first and second oral fluency tests are presented in Table 1.

Of great significance to this researcher was a change in a reader behavior of one student while conducting the second oral reading fluency test. The student pointed to each word with the pointer finger while reading for the initial test, but did not do so for the second test. Possibly contributing to some students' decreases in reading rate was that the first expository reading selection was on a topic more familiar to the students than the second selection. Additionally, students exhibited smoother phrasing during the second reading. More than half of the students increased their WPM, leading to the possibility that all students will eventually increase their WPM rate, given the short period of the software use.

The data gathered from the Accelerated Reader (AR) program, including points earned, average percents correct, and word counts, provided evidence of gains in silent reading fluency, which was the goal of using the software. These measures of independent silent reading influence each other. Students who read well score higher on AR quizzes and earn more of the points available on each quiz. The greater volume of reading is also exhibited in higher word counts.

Nearly three-fourths of the students increased the number of AR points earned during the three weeks of the study when compared with a three-week period before the software

intervention. When compared with expected numbers of points earned based on statistical norms provided within the AR program (Appendix C), 18 students met or exceeded their expected point totals during the three-week software use period. Nine students did not. Of the students who did not, seven were reading long novels, and one student was closer to expected gains than before the software use. These gains are significant, especially when considering that most of the students were reading independently at or above grade level. The results of the average percent correct data mirror the results of the points earned data. When students read more fluently, they read more, and they read with better recall and comprehension. Table 2 enumerates the above findings.

Word count data yielded similar results. Eighteen students read more words, nine read fewer, and one exhibited no change. Since word counts were an expression of passed AR quizzes, this was an expected finding.

Reading rate tests from AceReader Pro® software displayed a steady upward trend.

Students were able to read at a pace equal to or exceeding their oral reading rate. Of interest to the researcher is the accuracy component provided by the comprehension test taken to validate each reading rate test within the software. Students appeared to read more carefully knowing that they would be required to answer questions on the material. The students expressed to the researcher that they were focusing better because of the procedures and practice the software provided.

Of critical importance to the reading rate picture was anecdotal evidence from the researcher's implementation journal. Entries revealed that more students were reading in excess of twenty pages per day during the daily 45-minute AR period. Students also expressed opinions that they believed they were reading faster and focusing better during independent reading time.

As part of the data elucidating the effectiveness of the software in improving students' reading fluency is the students' beliefs about their own reading effectiveness, their self-efficacy beliefs. Student self-assessment surveys bore out the researcher's premise that students equate fast reading with good reading. Students expressed interest in becoming a fast or faster reader. For instance, Student Five equated slow reading with not being able to read certain desired books in the fifth grade. In the post self-assessment, this student felt like a faster reader and an active reader. After the software use period, students who had expressed negative views of themselves as readers improved their opinions. The improvements in reader self-efficacy beliefs also supported the researcher's premise that having a concrete tool to use for improvement would appeal to students.

The researcher's anecdotal journal notes provided support for the students' pleasure at being able to use the speed-reading software. Upon the revelation of an increase to two sessions using the software per week for each student, several students exclaimed, "Yes". Others pumped their fists in the air, and many smiles were noted. Frequent inquiries were made as to whether they would "get their turns" when there was a minor change in the class or school schedule.

Parents/guardians had expressed interest in the AceReader Pro® software during parent-teacher conferences. Comments were positive, and some expressed the wish that something similar had been available to them as students. When asked to respond via the parent assessment of student as reader survey, 19 returned the form. In most cases, the parents' assessments were similar to the students' self-assessments. One parent wrote insightful comments regarding the disconnect between decoding and comprehension in the child's reading process.

This researcher continues to be concerned about one student who continued to struggle compared to peers in the class. The parent's returned survey indicated an assessment of the

child's skills that does not match performance. The student's behaviors during silent reading revealed unusual difficulty with focus that extended to the student's engagement with the software. This student will need extra support to effectively use the software.

General trends from all the data gathered allow this researcher to consider the effectiveness of the software. Since the students are reading at or above expected norms for their grade level, gains made in reading rates are necessarily smaller than those made by younger readers. The results point to the value of 40 minutes per week spent on using the software. If students' classroom reading time is reduced by 40 minutes per week, yet they are meeting or exceeding AR goals, the time with the software is a supportable use of class time.

Combining the knowledge base on reading rate and comprehension and the eye movements of fluent readers with the results of this study supports the use of the software in the classroom. Additionally, the software provides more opportunities for students to practice leveled reading. Each leveled course of study within the software provides 12 reading passages. Students also gain valuable reading practice using the computer, a tool they enjoy.

Having established the use of the software in the classroom as an effective practice, this researcher will continue having the students use AceReader Pro® for 20 minutes twice a week. Further action will include training the students in accessing the line graphs of their changes in reading rate available within the software. Setting goals has long been acknowledged as important to learning. Students could use the graphs to focus on improvement in reading rate. The software also allows for importation of drill and game material. For instance, the seek and scan game asks one to find a certain name in a list that follows. Names or words from content areas could be included in this and other games within the software.

As a final step in the project, this researcher intends to share the results with colleagues. Repeated reading materials are available, but intermediate students are often more motivated by the use of the computer. As more technology is provided and installed in classrooms, effective software is vital. The relationship between the teacher and student remains critical, especially in teaching the complex skill of reading. However, in today's fast-paced world, an automated tool that allows the teacher to coordinate fluency practice for classroom full of students is welcome and well worth sharing with over-burdened colleagues.

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Appendix A

Data Collection Matrix

Research Question	Data Source #1	Data Source #2	Data Source #3
1. Can practice with AceReader Pro® software increase students' reading rate?	oral reading fluency test, words per minute rate, pre- and post-tests	self-paced reading rate test from AceReader Pro® software, initial fifth grade level test, final fifth grade level test	word count reports from Accelerated Reader program for two corresponding three-week periods
2. Will practice with AceReader Pro® software lead to improved Accelerated Reader performance?	accumulated Accelerated Reader points for two corresponding time periods, before and at the end of software use	average percent correct report from Accelerated Reader program, before and at the end of software use	comparison of points accumulated to expectations for performance using Accelerated Reader goal setting chart
3. Will practice with AceReader Pro® software improve students' reader self-concepts?	reader self-assessment from beginning of school year, repeat reader self-assessment at end of software use	teacher observation journal	parent completed student-as-reader assessment survey

Appendix B

Reader Survey

Name_____

Use at least three of the words below to write sentences describing yourself as a reader.

okay good excellent need understand like
slow fast trouble active passive dislike

Reader Survey

Parent Name_____

Student Name_____

Use at least three of the words below to write sentences describing your child as a reader.

okay good excellent need understand like
slow fast trouble active passive dislike

Appendix C

Goal-Setting Chart

Use the chart and guidelines below to help plan goals for your students based on their reading level and the amount of daily reading practice that you provide.

Identify ZPD

Identify each student's grade-equivalent (GE) score with a standardized assessment, such as STAR Reading, or estimate a GE based on the student's past performance. The corresponding ZPD is a recommended book-level range for the student. If books in that range seem too hard or easy for a student, choose a new range or create a wider one that better matches the student's abilities.

Set Goals

Average percent correct—The most important goal for all students is to average 85% or higher on Reading Practice Quizzes. Meeting this goal has significant impact on reading growth. Averages of 90% and higher are associated with even greater gains. If a student struggles to maintain the minimum average, talk to the student and find out why. Then decide on a strategy that will lead to success.

Point goals—The chart shows the number of points students are expected to earn based on GE and time spent reading. These are estimates—set goals that are realistic for individual students.

Grade-Equivalent Score	Suggested ZPD	60 Min. Daily Practice			30 Min. Daily Practice			20 Min. Daily Practice		
		Points per Week	Points per 6 Weeks	Points per 9 Weeks	Points per Week	Points per 6 Weeks	Points per 9 Weeks	Points per Week	Points per 6 Weeks	Points per 9 Weeks
1.0	1.0–2.0	1.7	10	15	0.9	5.0	7.5	0.6	3.3	5.0
1.5	1.5–2.5	1.9	11	17	1.0	5.5	8.5	0.6	3.7	5.7
2.0	2.0–3.0	2.1	13	19	1.1	6.5	9.5	0.7	4.3	6.3
2.5	2.3–3.3	2.3	14	21	1.2	7.0	10.5	0.8	4.7	7.0
3.0	2.6–3.6	2.5	15	23	1.3	7.5	11.5	0.8	5.0	7.7
3.5	2.8–4.0	2.7	16	24	1.4	8.0	12.0	0.9	5.3	8.0
4.0	3.0–4.5	2.8	17	25	1.4	8.5	12.5	0.9	5.7	8.3
4.5	3.2–5.0	3.2	19	29	1.6	9.5	14.5	1.0	6.3	9.7
5.0	3.4–5.4	3.5	21	32	1.8	10.5	16.0	1.2	7.0	10.7
5.5	3.7–5.7	3.9	23	35	2.0	11.5	17.5	1.3	7.7	11.7
6.0	4.0–6.1	4.2	25	39	2.1	12.5	19.5	1.4	8.3	13.0
6.5	4.2–6.5	4.6	28	41	2.3	14.0	20.5	1.5	9.3	13.7
7.0	4.3–7.0	4.9	29	44	2.5	14.5	22.0	1.6	9.7	14.7
7.5	4.4–7.5	5.3	32	48	2.7	16.0	24.0	1.8	10.7	16.0
8.0	4.5–8.0	5.6	34	50	2.8	17.0	25.0	1.9	11.3	16.7
9.0	4.6–9.0	6.3	38	57	3.2	19.0	28.5	2.1	12.7	19.0
10.0	4.7–10.0	6.9	41	62	3.5	20.5	31.0	2.3	13.7	20.7
11.0	4.8–11.0	7.6	46	68	3.8	23.0	34.0	2.5	15.3	22.7
12.0	4.9–12.0	8.3	50	75	4.2	25.0	37.5	2.8	16.7	25.0

Table 1

First and Second Oral Reading Fluency Tests

Student	First test WPM	Second test WPM	WPM increase (+) or decrease (-)
One	173	187	+14
Two	162	159	- 3
Three	209	220	+11
Four	186	213	+27
Five	205	231	+26
Six	130	128	-2
Seven	166	180	+14
Eight	165	180	+15
Nine	168	178	+10
Ten	152	181	+29
Eleven	223	192	-31
Twelve	196	171	-25
Thirteen	210	197	-13
Fourteen	160	170	+10
Fifteen	154	158	+4
Sixteen	170	177	+7
Seventeen	163	147	-16
Eighteen	226	194	-32
Nineteen	166	149	-17
Twenty	184	164	-20
Twenty-one	147	148	+1
Twenty-two	140	142	+2
Twenty-three	200	197	-3
Twenty-four	173	185	+12
Twenty-five	178	178	no change
Twenty-six	184	180	-4
Twenty-seven	158	200	+42
Twenty-eight	190	159	-31

Table 2

Accelerated Reader Points Earned and Average Percents Correct

Student	AR point norms	First three week period		Second three week period		Gain (+) or loss (-) in points	Met goal (+), did not meet goal (-)
		Mean % correct	Points earned	Mean % correct	Points earned		
One	11	90	7	100	15	+	+
Two	10	50	0	95	12	+	+
Three	19	100	18	95	19	+	+
Four	10	no data	0	85	13	+	+
Five	14	90	19	95	26	+	+
Six	8	100	5	no data	0	-	-
Seven	16	100	8	100	13	+	-
Eight	19	90	10	88	38	+	+
Nine	13	no data	0	90	14	+	+
Ten	17	no data	0	90	11	+	-
Eleven	14	72	31	90	32	+	+
Twelve	14	100	31	100	40	+	+
Thirteen	13	85	6	90	7	+	-
Fourteen	13	80	3	90	10	+	+
Fifteen	11	100	12	95	21	+	+
Sixteen	11	93	86	no data	0	-	-
Seventeen	9	no data	0	90	14	+	+
Eighteen	11	no data	0	95	26	+	+
Nineteen	9	89	38	no data	0	-	-
Twenty	16	no data	0	100	16	+	+
Twenty-one	19	no data	0	no data	0	no change	-
Twenty-two	13	80	7	92	14	+	+
Twenty-three	16	90	37	95	8	-	-
Twenty-four	19	93	21	no data	0	-	-
Twenty-five	13	93	37	100	17	-	+
Twenty-six	11	88	37	70	11	-	+
Twenty-seven	19	100	14	83	16	+	-
Twenty-eight	12	90	6	100	20	+	+

The author of this research paper made the following statement on 09/29/2011:

Since the foundation for learning in all subjects and all professions is reading, the possibilities are endless for the person who reads well. As a sixth grade teacher, I want to do everything I can to make sure life's opportunities are open to my students. Their reading levels vary from third through twelfth grades, which means that individualizing classroom experiences can be challenging. I also know from research and personal experience that reading speed impacts all other facets of reading. AceReader software is a practical tool that allows me to individualize reading practice. My students increase their reading speeds and comprehension, and they look forward to their AceReader turns in class. I know that using AceReader as a regular part of my reading program helps every student. Since the software is multi-level, I see AceReader software as a practical, effective tool to be used at many ages or ability levels.

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