

## **Increasing Fluency in First Graders: Practice Makes Perfect ...or at Least Better**

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There is a strong research base indicating that students who read more are better readers, but in the seven years since the report of the National Reading Panel (NICHHD, 2000), there has been much controversy surrounding the impact of Sustained Silent Reading (SSR) on students' reading achievement. This study attempted to assess the effects of time spent reading on first grade students' attitudes and fluency. Two first grade teachers dedicated 45 minutes at the end of every day to independent reading for a 7 week period. Pre- and post-assessment data were collected using two instruments: surveys for attitude and timed readings for fluency. One first grade classroom in the same school served as the control group. Results indicate that although there were no significant patterns in attitudinal changes, there was evidence of increased fluency across all ability levels, both in words read per minute and, more notably, in accuracy rates.

### **Introduction**

There is little argument that there is a strong positive correlation between the amount of time spent reading and reading achievement (Allington, 2006; Cunningham & Stanovich, 1998; Krashen, 1993, 2004). High-achieving students read about three times as much each week in school as their low-achieving counterparts (Allington, 1977, 1984; Allington & McGill-Franzen, 1989). There are also indications that the volume of in-school reading is one of the important differences between more and less effective teachers (Allington & Johnston, 2002; Pressley, Allington, Wharton-MacDonald, Block & Morrow, 2001). Guthrie (2004) compares reading to other areas of potential expertise, including athletics, the arts, and games of strategy (chess). He indicates that across these activities, experts practice five times as much as novices and goes on to demonstrate that findings are similar in reading; our most proficient fourth graders read at least 150 minutes a day while our poorest readers spend 30 minutes reading, if that. Nagy and Anderson (1984) went so far as to estimate substantial differences in volume of words read by middle grades students, presenting estimates ranging from 100,000 words per year for some students up to 10,000,000 for avid readers. In terms of classroom practice, Krashen (2001) reports that students who participated in sustained silent reading (SSR), "...did as well as or better than students in control groups in 50 of 53 studies" (p. 120).

However, in the wake of the National Reading Panel's admonishment that despite positive correlational evidence, there is little scientifically-based research to support the assumption that there is a causal connection between reading volume and reading achievement (National Institute of Child Health and Human Development, 2000), it is not likely that such engaged reading time is increasing

in classrooms across our nation. The results of a survey of teachers conducted by Block and Mangieri (2002) found that the time for independent, recreational reading in the classroom has indeed decreased in response to state and federal legislative mandates. Thus, despite the overwhelming evidence that time spent reading influences student achievement, we find ourselves in an era of accountability where many teachers are so busy “covering the curriculum” that the school day schedule allows very little time for students to actually read.

Even though we (two of three authors) teach first graders and aren’t held to the same standard of test accountability as our third, fourth, and fifth grade counterparts, we feel an increased responsibility to encourage our students to achieve. In addition to the required selection and unit tests based on our adopted reading series, our students are assessed three times a year (fall, winter, spring) using curriculum based measurement (CBM) tests. Each CBM session consists of a one minute timed reading on grade-level material that the children have not seen before. According to these CBM tests, our students were making progress, but after listening to an inservice presentation on the importance of reading volume and spending some time reading about related practices, we knew something was missing: our students really weren’t spending a lot of time actually reading. With our principal’s support, we began to develop our own action research project, intended to document the effects of daily independent reading time.

### **Where and Who We Teach**

We teach in a small, neighborhood school in a tightly knit community within a large, metropolitan area. Our school building is unique in that it is a 75 year old, three story all brick structure with high ceilings and wood floors. It is a multi-generational school; many of our 400 plus students have parents and grandparents who attended elementary school here. In fact, a few of our 22 teachers are also former students. Half of our students receive free or reduced lunch, and our student population has changed, growing more diverse particularly in terms of second-language learners. Despite these changes, our school remains a primary focus of the cohesive, independent, and proud community it serves.

Our school is also considered a professional development school (PDS) working in collaboration with a local university. As a PDS site, we host and mentor interns who complete a year-long internship program. The PDS philosophy that teachers must actively examine their own practice led us to this project.

Our classrooms are typical first grade classrooms, full of active six and seven year olds. Kristi’s class has 19 students, 10 girls and 9 boys, 2 of whom receive special education services in the area of reading and 2 of whom receive speech services. Ellie’s class has 16 students, 9 girls and 7 boys, 2 receiving

special education services in reading and one in speech. All students were included in our action research project. Data are only reported for 15 of Ellie's students because one arrived midway through the project.

## **Planning the Project**

We enlisted the help of Amy, the university faculty member who works with our PDS, and together we designed a project that would provide us with the data needed to answer our question, "How does time spent reading affect students' reading fluency, accuracy, and attitudes?" In reference to the issue of time spent reading, Samuels (2006) suggests that student ability indicates the daily time needed to achieve significant results. He posits that low ability students require only 15 minutes of reading time in order to achieve significant increases in fluency, while those students with higher abilities need more time—up to 40 minutes to achieve similar results. Based on our research, we concluded that more time could not hurt any of our students, and because of the range of abilities in our classrooms, we knew that some of our students could benefit from the 40 minutes suggested by Samuels.

We knew that we could use our newly implemented block class schedule to our advantage by refocusing the last block of the day, a 45 minute time frame called I/E (Intervention/Enrichment) time. After securing the approval of our principal, we dedicated this time to extra reading, basing our rationale on the fact that the additional engaged reading time would both serve as an intervention for our struggling readers and enrichment for those who read on grade-level. Based on the research, we knew that it was important to provide the students with materials that were at their independent level (grade-level at which they read and understand without support); we specifically used books and poems that had been read together in class, leveled books, and other "easy" reading materials. We also tried to value choice among our students, allowing them to read in pairs and sometimes switch between our classrooms to read in a slightly different environment. With our design in place, our students would spend at least 45 minutes a day engaged in the reading process.

Because we wanted to investigate both attitudes and fluency, we decided to collect data using two data sources in addition to our own anecdotal notes. To evaluate fluency, including measures of both accuracy and speed, we continued using the CBM tests that were already a required part of our school's assessment plan. However, we planned to give a mid-spring assessment to establish a baseline before implementing our intervention, followed by another probe after the seven week intervention period. Students also completed a simple, 12 question survey, located in the Appendix, in which they each circled, "Yes," or "No," after each question was read aloud. One of our first grade colleagues offered her classroom as a control group. While she did not restrict her students from spending time reading, she did not dedicate her I/E time for extra reading as we did. Our research timeline can be found in Table 1.

Table 1: Timeline for Project Implementation and Data Collection

Date	Action
Mid-March	Administer Reading Attitude Survey Administer Baseline CBM Assessment
Mid-March- Mid-May (7 weeks)	Intervention: 45 minutes of daily reading time
Mid-May	Administer Post Reading Attitude Survey Administer Post CBM Assessment

### Results

We cautiously conducted both an Analysis of Variance (ANOVA) test and independent samples t-tests in an attempt to investigate the presence of significant differences between groups, despite the fact that sample sizes were small (n=16 for the control group; n=19 and n=15 for the intervention groups) and could potentially impact statistical validity. These tests did not indicate significant differences between the control and intervention groups.

While the results were not statistically significant, there were gains in the intervention classrooms when compared to the control classroom and the test averages. See Table 2 for a comparison of accuracy and words per minute (WPM).

Table 2: Comparison of Fluency Component Averages

Classroom	Baseline WPM	Post WPM	Individual Change in WPM	Baseline Accuracy	Post Accuracy
Intervention 1	77	106	+ 29	89%	97%
Intervention 2	54	71	+17	85%	95%
Control	51	67	+16	86%	88%

### Words Per Minute

In the intervention classrooms, students increased WPM by an average of 23 words, as compared to 16 words in the control classroom, and 8 words for the national average reported by the testing company. When examined more closely, however, even more differences emerge between the control and intervention classrooms. Harris and Sipay (1990) suggest that an adequate reading rate for first graders falls somewhere between 60-90 WPM. The control classroom started with eight students reading below 60 WPM, and while many of these students did indeed make gains, only one gained enough to be considered “adequate,” moving from 40 WPM to 89 WPM during the course of the study. However, in the intervention classrooms, 8 of 17 students originally performing at

less than adequate standards raised their WPM scores to over 60. Furthermore, when examined quantitatively, students in the intervention classrooms *all* made gains of at least 150% over the national average.

The differences between the second intervention classroom and the control classroom also warrant further investigation because when examining classroom averages, the classes look quite similar in terms of changes in WPM. However, in the control classroom, only 3 of 16 students improved their reading rate by more than 17 WPM; the rest ranged from a gain of 1 to 17. In the intervention class, however, 9 of 16 improved their reading rates by more than 17 WPM. Furthermore, 2 students in the intervention class showed negative scores. One student lost 12 WPM, moving from a baseline score of 165 WPM to a post intervention score of 153 WPM while the other moved from 64 to 63 WPM. These scores impacted the individual average gain score, which, if recalculated without them, would sit at just over +20 WPM.

### **Accuracy**

In addition to improving reading speed, accuracy rates (based on their CBM test scores) increased tremendously among intervention students, with 80% of students reading at 98% accuracy or above at the conclusion of the intervention. Specifically, 89% (31 of 35) of students in the intervention group read with 95% or more accuracy, while only 50% of the control group met the same standard. In the control group, less than 20% read with 98% accuracy or greater.

### **Attitude**

Although few consistent changes in attitude were noted in this short time period, changes in student responses to two questions warrant further investigation. Many students in both intervention classes changed their answers to the questions, “Do you have trouble reading some words?” and, “Is it hard for you to read new words?” In both cases, virtually equal numbers of students changed their answers from yes to no as they did from no to yes, possibly indicating that the increased amount of reading time allowed some students to become more aware of their decoding struggles. In addition, a number of students in the intervention classrooms spontaneously wrote unsolicited comments like, “It is fun to red (sic) books!” and, “My reading has inprovd (sic),” on their attitude surveys.

### **Selected Students for Discussion**

We could discuss the changes that transpired in any one of our 36 students in seven short weeks, but we have chosen to more closely examine three, each of varying ability, in an attempt to show the changes that took place in our classrooms.

**Mitchell.** Mitchell (pseudonyms are used throughout) did not start the year as a particularly strong reader although he had very supportive parents. He was capable but unmotivated, and in October was reading 16 WPM with only 66% accuracy. However, when we collected our baseline data, his reading fluency had improved significantly, in both speed (90 WPM) and accuracy (100%). Needless to say, when we started the intervention, we were not particularly worried about Mitchell's success. However, we noted that he was quite engaged in the block of reading time, and with that extra practice, his confidence and interest in reading grew. In May, he continued to read with perfect accuracy, and increased his speed to 168 WPM on a piece of first grade text he had not seen before. He made more progress in terms of speed during the seven week intervention than he did in the five months prior.

**Karen.** Karen was one of our speech/language students who not only lacked confidence but also lagged behind in decoding skills. Her October CBM score indicated she was reading only 9 WPM with 60% accuracy. By mid-March, she had improved her rate to 45 WPM and her accuracy to 82%. However, she, too, showed nearly as much growth in reading rate during our seven week intervention as she had in the previous five months, reading at 87 WPM with 95% accuracy. She was most pleased with her own outstanding performance.

**Steve.** Steve, one of two special education students identified with reading difficulties in Kristi's classroom, clearly struggled with reading. He did not have much support outside of school and lacked many of the basic reading skills associated with beginning first graders. His fall CBM scores indicated he was reading 4 WPM with a dismal 30% accuracy. Steve made slow progress through the winter, and by March was reading 26 WPM with an improved 59% accuracy. Steve continued the growth trend, gaining 15 WPM to finish the year reading at 41 WPM with a much improved 85% accuracy. Although he still read well-below a typical first grade reading rate, his progress was outstanding.

Each of these three students showed nearly as much or more growth in reading rate during the seven weeks of extended independent reading time than he or she had during the previous five months. Although it is not unusual for first graders to make great gains in reading fluency over the course of the year, the trends demonstrated by these three students were similar to those found in the intervention classrooms. While some of those in the control classroom saw similar gains, particularly in WPM, the intervention classrooms contained more children of varied abilities who demonstrated 95% or greater accuracy as well as a surge in reading rate during the intervention period. We know that this practice time made a difference in our students' fluency, and our anecdotal information leads us to believe it affected their overall reading achievement, as well.



## Lingering Questions

Engaging in this action research process has led us to more questions. Based on our results, we agree with the research that indicates time spent reading dramatically influences reading performance (Anderson, Wilson & Fielding, 1988; Postlethwaite & Ross, 1992). However, we wonder if the gains we saw were due in part to the timing of our study. Students at the end of first grade have a much stronger command of the letter-sound match than they do at the beginning. We are currently in the process of examining the effects of our extended independent reading time on beginning first graders. We also wonder about some of the changes in attitudes that we documented in our students based on the changes they made in answering the survey questions. We know that most first graders don't discriminate between effort and ability when they find success, and yet there were indications that some of our students changed the way they looked at themselves as readers as they spent more time actually engaged in the process. Were these changes a result of typical first grade inconsistency, or were they indicators of something larger? Were some of our six and seven year olds really thinking about themselves as readers? Did more practice really help some students realize that they sometimes had trouble reading new words? Did more practice help others realize that they improved their decoding abilities? We concur with Cunningham and Allington (2007) when they suggest that, "The fact that children must do a lot of reading to become good readers...is simple and straightforward" (p. 12). However, we continue to unpack the complex and sometimes messy issues that surfaced during our classroom research.

### About the authors:

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## Appendix

### FIRST GRADE READING SURVEY

- |   |     |    |
|---|-----|----|
| 1. Do you like to read?                               | YES | NO |
| 2. Is it hard for you to read?                        | YES | NO |
| 3. Are you a good reader?                             | YES | NO |
| 4. Do you have trouble reading some words?            | YES | NO |
| 5. Is it hard for you to read new words?              | YES | NO |
| 6. Has your reading gotten better this year?          | YES | NO |
| 7. Do you read often at school?                       | YES | NO |
| 8. Do you get to choose the books you read at school? | YES | NO |
| 9. Would you like to read more at school?             | YES | NO |
| 10. Do you read books at home?                        | YES | NO |
| 11. Do you get to choose the books you read at home?  | YES | NO |
| 12. Would you like to read more at home?              | YES | NO |