Running head: EFFECTS OF FLUENCY INSTRUCTION

# Effects of Fluency Instruction on Literacy Skills in the First Grade Classroom

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## Abstract

The effects of fluency intervention strategies on students' fluency rate, comprehension, and word identification were the focus of this study. Both the experimental and control groups were first grade classes, taught by the same teacher, at Elder Primary School in Sandersville, Georgia. The study was conducted over a 15-week period. The results of the study were inconclusive. While the experimental group showed expected progress in comprehension, fluency rate, and word identification, there was no statistical difference in the achievement of both groups. Further research could be conducted to explore the effects of fluency instruction on the achievement of first graders.

# Effects of Fluency Instruction on Literacy Skills in the First Grade Classroom

The process of learning to read requires a learner to advance through several stages in order to become a capable reader who can construct meaning from the written word. One stage is that of moving from dealing with words on an individual basis to one of recognizing words automatically, with accuracy, and with prosody. This process is known as fluency (Kuhn & Stahl, 2003). The National Reading Panel has defined fluency as "the ability to read text quickly, accurately, and with proper expression" (NICHD, 2000, p. 3-5). Fluency has often been used interchangeably with automaticity; however, fluency is more than accurate and fast word recognition. *The Literacy Dictionary: The Vocabulary of Reading and Writing* defines fluency as "freedom from word identification problems that might hinder comprehension" (Harris & Hodges, 1995, p.85). This definition broadens the scope of fluency to involve comprehension. According to Chard & Pikulski (2005, p. 510) the definition of reading fluency is: "efficient, effective word recognition skills that permit a reader to construct the meaning of text. Fluency is manifested in accurate, rapid, expressive oral reading and is applied during, and makes possible, silent reading comprehension."

Although fluency has been identified as a key element of successful reading programs, it has frequently been neglected (Griffith & Rasinski, 2004). Recent research on reading fluency has confirmed that fluency is an important factor in reading and is related to achievement and comprehension (Griffith & Rasinski, 2004). Research suggests that fluency alone will not ensure high levels of reading achievement, but it is a necessary ingredient to high levels of comprehension (Chard & Pikulski, 2005).

A compelling reason to include fluency instruction in the reading curriculum is the strong correlation between reading fluency and comprehension. A recent study by the National Assessment of Education Progress (NAEP) found that 44% of the nation's fourth graders were low in fluency. Students who scored low on measures of fluency also scored low on measures of comprehension, suggesting that fluency is often a neglected reading skill in many classrooms in America, affecting reading comprehension of many students. (Armbruster, Lehr, & Osborn, 2001) Students who are fluent readers put less effort into decoding during reading while poor readers focus solely on word recognition, phonics and other skills in isolation (Seago-Tufaro, 2002).

Many elementary school reading curriculums have oral reading fluency as an underlying goal of reading instruction. Yet most teachers are not familiar with effective methods of instruction and ways to integrate reading fluency into their daily lessons. Teachers have not been trained in their teacher training programs to instruct their students in the concept of fluency; therefore fluency is not a part of their implemented program (Griffith & Rasinski, 2004). The expectation has always been that if students read more they would achieve fluency.

Research and theory suggest that students need instruction and teacher guidance in order to progress efficiently through the stages of reading to improve reading fluency. Most reading programs build on a foundation of oral language skills, phonemic awareness, familiarity with letter forms and efficient decoding strategies. These stages of word recognition explain how readers begin to recognize words by sight through the processing of print (Chard and Pikulski, 2005). If a reader has not developed fluency, the process of decoding demands considerable cognitive effort, therefore the reader has

insufficient attention available to make sense of the text. Students who are able to read words accurately have the ability to decode words correctly. Word reading accuracy requires a strong understanding of phonics, the ability to blend sounds together and a large sight word vocabulary. These skills are taught as part of most elementary school reading programs and are necessary for the first part of reading fluency: word identification accuracy (Hudson, Lane & Pullen. 2005, Morra & Tracey, 2006).

There are several research-based recommendations for providing reading instruction to build fluency in emerging readers and a comprehensive reading program emphasizes both research-based practices and reading for meaning. Research indicates that students who fluency rates are below the norm, not only read less text and have poor comprehension, but they may also develop a dislike for reading. Beginning readers need a program of instruction that includes specific intervention strategies to improve fluency: repeated readings, teacher modeling, simultaneous reading, paired reading, choral readings, audiotapes, and reader's theatre (Hudson, et al., 2005; Ruddell, 2006).

*Fluency Intervention Strategies*

Repeated reading (echo reading) requires students to simply reread text that has already been read to them. Using this strategy with the whole class or small groups, the teacher reads aloud a section of text and then students reread it, pointing to words as they are reading. According to research, a student needs to read a text four times to improve oral fluency (Texas Education Agency [TEA], 2002; Osborn & Lehr, 2003). Since time is a prohibitive factor during the course of a school day, engaging parents and other adults in this activity is crucial. Encouraging parents or other family members to read aloud to their children and for their children to read aloud to them is beneficial. Children not only

hear a model for fluent reading; but also increase their knowledge of the world, their vocabulary, their familiarity with written language, and their interest in books (TEA, 2002; Osborn & Lehr, 2003).

Teacher modeling (student-adult reading) includes the teacher in the reading. The teacher reads one page orally and the student reads the next alternately throughout the text. Simultaneous reading is very similar to teacher modeling in that the student and adult read the same page orally at the same time, with the teacher reading slightly faster than the students. This strategy increases the fluent pace of the student (Ruddell, 2006; TEA, 2002).

Students also respond well to paired reading (partner reading). In this strategy, paired students take turns reading aloud to each other. More fluent readers can be paired with less fluent readers for this activity. The stronger reader reads a page or paragraph first, providing a model of fluent reading. The less fluent reader reads the same text aloud with the stronger reader assisting with word recognition and giving feedback and encouragement to his partner. The partner reading strategy can also be used with children who read at the same level and are paired to reread a story that they have received instruction on during a teacher-guided section of the lesson or after hearing the teacher read a passage. (Osborn & Lehr, 2003; Ruddell, 2006; TEA, 2002).

The choral reading, or unison reading strategy involves students reading along as a group with the teacher as the fluent reader. Books chosen for the strategy should be at the independent reading level of most students involved and not too long. Patterned or predictable books are good choices for choral reading because of their repetitious nature, which invites students to join in. The teacher begins by reading the text aloud to model

fluent reading. The teacher rereads the book and has students join in as they recognize words. Rereading continues as students read along. Students may need three to five rereadings to be able to read the text independently (TEA, 2002).

The use of audiotapes or tape-assisted readings allows students to read along in their books as they listen to a selection that has been recorded by a fluent reader. The students listen to the story initially and follow along by pointing to each word the reader says. After listening to the entire selection, the students choose a passage from it to practice. They then read aloud with the tape until they gain oral fluency and can read the passage independently (Osborn & Lehr, 2003; TEA, 2002).

In reader's theatre, students rehearse and perform a play or script for peers and others. They read from scripts that have been written from books that are rich in dialogue. Students "play" characters that speak lines or a narrator who shares necessary background information. This strategy provides readers with a reason to reread text and practice fluency. Reader's theatre also promotes cooperative interaction with peers and makes the reading task fun (Osborn & Lehr, 2003; TEA, 2002).

Research suggests that the best strategy for developing reading fluency is to provide students with many opportunities to read the same passage orally (Texas Education Agency, 2002). Reading practice can be accomplished by employing these fluency intervention strategies: repeated readings, teachers modeling, simultaneous reading, paired reading, choral readings, audiotapes and reader's theatre (Ruddell, 2006).

The purpose of this study was to determine if using the fluency intervention strategies would have a positive effect on literacy skills of first graders at Elder Primary School. Fluency has often been seen as a byproduct of reading instruction but not a

targeted skill. Therefore, it was expected that students' fluency rates would increase in addition to an increase in comprehension and word identification skills when fluency intervention strategies were emphasized.

## Method

### *Participants*

This study took place at T.J. Elder Primary School in Sandersville, Georgia. Sandersville is a rural middle Georgia community in Washington County. Washington County is the eighth largest county in land area, but has a small population. Sandersville is in east central Georgia, halfway between Atlanta and Savannah. Once a predominately farming area, Washington County is mostly dependent on the kaolin industry, timber production and businesses for employment (SACS Report, 1995, 2005).

Elder Primary is the largest primary school in the Washington County Public School system. Elder Primary housed a total of 513 students in grades pre-kindergarten through second grade. There were a total of thirty regular education classes: nine kindergartens, ten first grades, nine second grades, and two pre-kindergartens. The classes were grouped heterogeneously according to standardized test scores, classroom performance and teacher recommendations. The majority of the students at Elder Primary were from low-income, as well as, single parent families. The school was a Title I school and all students received free breakfast and lunch (SACS Report, 1995, 2005).

The participants in this study were a self-contained first grade class from the 2005-2006 school year and a self-contained first grade from the 2006-2007. The students

ranged in age from 6 to 7 years. There were 19 children in the 2005-2006 class and there were 20 children in the 2006-2007 class.

*Instrumentation*

The instrument used to test both the control group and the experimental group of students was the *Lexia Comprehensive Reading Test (CRT).* This test is designed to evaluate a student's reading abilities and skills in four areas: basic kindergarten readiness, phonics and decoding skills, sight words, and reading comprehension. The first section of the test required students to respond to basic questions about name, age, colors and phonemic awareness. The second section of the test evaluated phonics and decoding skills, from letter recognition to the structure of language. The third section tested the student's ability to read Dolch Sight words in a limited amount of time (3 seconds). The final section utilized the Burns/Roe Informal Reading Inventory to evaluate reading comprehension and fluency. Lexia CRT generated three types of reports: individual reports, group reports, and school reports (Lexia Learning Systems, 2002).

*Procedures*

Scores for the control group were already available from the testing session completed in August 2005 and January 2006 of the 2005-2006 school year. Testing was completed in August and again in November of the 2006-2007 school year for the experimental group. The classroom teacher tested each child individually. Permission to conduct the study was obtained in writing from the principal of T.J. Elder Primary School. Since individual student's scores were not identified, parental permission to use student scores was not necessary.

The control group of first grade students (2005-2006) was taught using the Scott Foresman Reading for Georgia basal program. Scott Foresman's basal program combines word recognition, vocabulary and comprehension instruction with meaningful reading and writing activities and can be adjusted to meet the individual needs of students. It uses a balanced approach designed to be adapted to students' instructional needs based on teachers' informed decisions from assessments. The teacher followed the teacher's edition to instruct the students in explicit phonics and word study, reading comprehension, high frequency vocabulary, oral language and writing. Instruction consisted of daily lessons and practice. Literacy instruction consisted of phonics skills, songs and rhymes charts, word-wall activities, targeted comprehension skills, reading stories and books, journal writing, and the use of practice workbooks. The teacher employed multiple reading strategies with a variety of reading materials to develop independent readers (Scott Foresman Reading for Georgia, 2004).

The control group successfully attained the goal of reading independently at or above grade level. However, many students failed to achieve a fluent expressive oral reading ability. The teacher realized that direct fluency instruction needed to be targeted as a skill to be included in the literacy curriculum. Research suggests using strategies that target fluency development can increase fluency rate. A plan was designed to determine the effects of fluency instruction on literacy skills of first graders. The teacher chose the 2006-2007 class to use as an experimental group.

The same teacher instructed the experimental and the control groups. Both groups were taught using the Scott Foresman Reading for Georgia basal program. The teacher used similar activities and lessons with both groups. The same lesson plans were

followed utilizing the same materials and resources. Both groups also participated daily in the Accelerated Reader program. The teacher added fluency strategies to the daily lessons with the experimental group to determine the effect they would have on fluency development of first graders. The fluency strategies targeted were repeated readings, teachers modeling, simultaneous reading, paired reading, choral readings, and the use of audiotapes.

The study lasted approximately fifteen weeks. The teacher employed at least one of the fluency strategies daily in her literacy lessons. The teacher kept a daily journal of strategies used. In keeping the journal, a pattern emerged which was used for the entire study. On Mondays, the teacher used an audiotape to present the reading selection to the students. On Tuesdays, the students listened to the audiotape again as well as choral read the selection as a class. On Wednesdays, the students would once again listen to the selection on tape and then engage in paired reading with a partner. On Thursdays, the class would choral read and the teacher recorded the students and then replayed it for the students to listen. Fridays were also paired reading days of self-selected books. Other strategies, such as repeated readings and teacher modeling were used often throughout each day.

The students were tested prior to the onset of the fluency strategies and again after completing the fifteen weeks of implementation of the fluency strategies.

*Design and Data Analysis*

The design of the study was quasi-experimental. To account for pre-existing differences between students, an analysis of covariance was used with the pre-test as the covariate and the group assignment as the independent variable. A t-test was used to

determine if there was a significant difference in the two groups at the time of the pretest. The alpha level was set at .05.

## Results

The purpose of this study was to determine if using fluency intervention strategies would have a positive effect on literacy skills of first graders at Elder Primary School. Therefore, it was expected that students' fluency rates would increase in addition to an increase in comprehension and word identification skills when fluency intervention strategies were emphasized.

The control group had a pretest mean of 38 (*SD* = 12) while the experimental group had a pretest mean of 33 (*SD* = 9). Independent t-test on the pretest scores was not significant [t (37) = .18]. The control group had a posttest mean of 45 (*SD* = 9) while the experimental group had a posttest mean of 39 (*SD* = 9). See Table 1. The effect size of the improvement for each group using Cohen's *d* was .67, an improvement of 38 percentile points for both groups.

The analysis of covariance using the pretest scores as the covariate was statistically significant [$F$ (2,36) = 89.48, $p < .001$] for the corrected model. Partial Eta squared was .83 and power was 1.0. The difference due to group approached statistical significance [$F$ (1,36) = 4.02, $p = .052$], partial eta squared was .10 and power was .50. The adjusted marginal means were control = 42.8 and experimental = 40.2.

## Discussion

The findings of this study did not support the hypothesis that fluency instruction would increase fluency rates as well as comprehension and word identification skills. When tested using the Lexia CRT, both the experimental and control groups showed the

same gain in percentile points. These findings may be misleading in that there were several threats to the internal validity. The posttest given to the control group was given in mid-January, while the posttest given to the experimental group was given in mid-November. Therefore there was a six-weeks difference in the timing of the test. This may have given the control group an advantage of six more weeks of instruction. However, the experimental group may have had an advantage because they were tested before any holiday break. The children in the experimental group may have retained more of their instruction because they were administered the test prior to fall or winter breaks.

While the results of this study are unconvincing as to the effect of explicit fluency instruction on fluency rate, comprehension, and word identification, the experimental group did show expected progress. It appears that when fluency instruction strategies are compared to traditional instruction with basal readers, fluency instruction does improve comprehension ability and fluency rate. The National Reading Panel concluded that repeated oral reading procedures that included guidance from teachers, peers and parents had a significant positive effect on word recognition, fluency, and comprehension across a range of grade levels (National Institute of Child Health and Human Development, 2000). Although my findings were inconclusive, I feel that using fluency strategies in the classroom does improve the fluency and comprehension skills of early readers. Test results do not always show the day-to-day improvement students exhibit when reading aloud.

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Table 1

*Lexia Scores*

| | | N | M | SD |
|---|---|---|---|---|
| Pretest | Control | 19 | 38 | 12 |
| | Experimental | 20 | 33 | 9 |
| Posttest | Control | 19 | 45 | 9 |
| | Experimental | 20 | 39 | 9 |

Figure Caption

*Figure 1.* Mean comparison of Lexia Scores