

Fluency in First Grade Readers

by

Patricia Pontier

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Abstract

The impact of an intervention program involving sight words on fluency in first grade readers is the focus of the study. Both the experimental and control groups were first grade students who, according to a pretest were rated equal in ability. The students were from a private school with both groups receiving the same daily instruction with the exception of the experimental group receiving the intervention program. The study was conducted over a three week period. The results of the study showed improvement with the scores of the experimental group indicating the positive effect of the intervention program on fluency of first grade readers. Further research could be conducted to explore the effects of fluency intervention programs on the achievements of first graders.

Chapter I

Introduction

Overview

The process of reading is composed of many skills which need to be learned and practiced in order to become a capable reader. The skills often overlap and depend on each other. Fluency is a skill which enables a reader to gain meaning from the written words. Fluency is the ability to recognize words with automaticity and accuracy and to read with prosody or expression. During the early years students are taught letters and their sounds and progress through stages of learning to decode words. As students become familiar with the written word they progress to a stage of learning where they are no longer concerned with individual words but focus on recognizing words automatically with speed and accuracy. During this stage comprehension becomes more the focus of reading not decoding individual words. Fluency becomes an important factor in reading and is related to achievement and comprehension.

Research has shown the importance of fluency yet we do not focus on teaching fluency in the early grades. The skills that are taught to students in the early grades are necessary in order to enable the students to be able to recognize words automatically and develop the ability to read fluently. In the school in which I teach we put emphasis on phonemic awareness and phonics in our daily reading lessons. However fluency is not a strong concern. Fluent reading is modeled and practiced for the students but the lessons do not incorporate fluency into the curriculum in the first grade.

Statement of Problem

How can we improve fluency in first graders? Research has clearly shown the significance of fluency in the development of reading proficiency. A variety of methods of instruction and assessments have been developed. Teachers focus on the acquisition of many reading skills and fluency is an essential skill that needs a place in the reading instruction. Will the fluency of first graders increase if an intervention program directed at fluency is instituted?

Hypothesis

Fluency is an important part of reading proficiency as research has shown. In the early years reading skills are taught and developed mainly with the focus on phonemic awareness and phonics skills. These skills are essential for the first part of reading fluency; word identification. All the skills in focus assist students in learning to read and the assumption is made that fluency will naturally follow. Theoretically that may be true however students may meet with better success in reading if attention is also placed on the teaching of fluency directly. This study takes a look at an intervention program in the first grade which directly teaches sight words to first grade students. The study looks at the rate of reading and the accuracy within a specific time frame to determine if fluency improves after the intervention program.

Students who have fluency rates below the norm read less and have poor comprehension. They may also develop a dislike for reading. Beginning readers need a reading program that includes strategies to improve fluency. Many programs include strategies such as repeated readings, teacher modeling, paired reading and others. In

addition to these strategies this study looks at the automatic word recognition of sight words and the impact of knowing the sight words of the fluency rate.

Operational Definitions

The study included two groups of students both were placed in the same level reading program. The independent variable was the instructional program given to one group which lasted 3 weeks. All of the students had the benefit of a preschool experience and the differences in the two groups were not relevant to the study. Each group received a pre test as well as a post test. Both groups continued with the regular instructional program while the experimental group received an additional sight word instructional program.

Fluency has been defined as the rate and accuracy of reading with consideration to expression. These factors effect comprehension and therefore are important to the reading process. The DIBELS assessment measures the critical skills that underlie early reading success. These assessments predict how well children are likely to be doing in reading comprehension by the end of third grade and beyond. The short tasks help locate, monitor and intervene with at-risk students. Dibels measures a foundational skill whose contribution to reading comprehension is established. Reading problems can be detected in kindergarten and early first grade. Most reading problems can be prevented if they are caught early.

Chapter II

Review of the Literature

This literature review looks at the effect of oral reading fluency on reading performance. The first section gives an overview of reading fluency and the importance of fluency on the process of reading. It looks at the many components of reading and why fluency is an important part of reading and answers the question what is fluency? Section two looks at the relationship of fluency to the reading process. Section three identifies the characteristics of a good reader and the characteristics of students who struggle with fluency. Section four looks at programs and fluency interventions and strategies that will assist the struggling students.

Definition of Reading Fluency

Reading is a complex process that incorporates many tasks. The coordination of these tasks is essential to achieve fluency. The ability to instantly execute these tasks enables a reader to achieve fluency so that performance is speedy, seemingly effortless, autonomous, and achieved without much consciousness or awareness (Logan, 1997). According to the National Reading Panel, phonemic awareness and knowledge of phonics are tools for helping children achieve fluency in reading. However possession of these skills does not necessarily mean a student is a fluent reader. Opportunities for and practice in reading both in and out of school are thought to contribute to the development of fluency.

The Literacy Dictionary: the Vocabulary of Reading and Writing as cited in Harris & Hodges, (1995, p.85) defines fluency as “freedom from word identification problems that might hinder comprehension”. The National Reading Panel has defined fluency as “the ability to read text quickly, accurately and with proper expression” (NICHD, 2000, 3-5). These definitions both include the reader as someone who can decode words with ease; yet the inclusion of the skill of comprehension in the first definition makes the concept of fluency a necessary factor for comprehension to occur. Many practitioners are concerned that oral reading fluency is only decoding; however, decoding is considered a prerequisite but not sufficient for comprehension. An important point to consider is that some studies indicate oral reading fluency is an index of reading proficiency. An examination of the various facets of reading and fluency shows how fluency is important in the overall reading performance of a student. Research suggests that fluency alone will not ensure high levels of reading achievement, but it is a necessary ingredient to achieve high levels of comprehension (Chard & Mikulski, 2005). Fluent reading is composed of three elements; accuracy of reading text, rate at a conversational level, and expression. A fluent reader can maintain the elements over long periods of time with retention of the skill and is able to generalize across texts (Hudson, 2005). In addition to accuracy and automaticity, fluency incorporates elements that make for meaningful rendering of text (Kuhn, 2005).

Theoretical Contributions

There have been many studies analyzing the reading process, and a few researchers have noted the relationship of fluency to the reading process. Clay (1991) explains that

children acquire print concepts first or the skill of phonemic segmentation and begin to focus attention on letter-sound relationships. When a child omits, inserts, or changes words as he reads, he/she is using strategies to keep the activity going. These are signs of a good reader. Clay also describes how the development stage of learning to read transacts with motivation-related responses such as courage, perseverance and initiative.

Chall has shown the student moves through stages of reading proficiency development. Stage 1 is when readers acquire phonemic awareness and decoding skills by learning the alphabet, letter sounds, and letter groups. Stage 2 is when a student practices decoding skills and develops fluency and speed. Stage 3 is when concentration is less on the printed words and more on the ideas and content of the reading material. Jager-Adams suggests that the ability to read words quickly, accurately, and effortlessly is critical to skillful reading comprehension.

Characteristics of Readers who Struggle with Fluency

Struggling readers are those learners whose reading development does not keep pace with their peers. They are unable to differentiate unknown words from words they already know and are unable to decode words correctly. In order to make meaning from what is read, a student needs to accurately identify words. Fluency also consists of proper reading rate. A student having correct word identification develops automaticity. This enables them to read with a rate appropriate to their reading level. When a student has to put more time into decoding, they lose the meaning intended by the author (Miller, 2008).

The lack of prosody is another indicator of a reader who struggles with fluency. Prosody indicates a reader gaining meaning from what is read. He/she understands the

meaning of the words and the forms of punctuation the author uses. Having prosody is an indicator of good comprehension. Slow laborious reading, and reading without expression are often signs of students who suffer from a lack of fluency.

Programs and Fluency Intervention Strategies

There are many strategies to promote fluency for students. The first strategy is to model fluent reading. Providing an opportunity for students to hear a selected text that is read with expression and read fluently is giving them an example of fluent reading. In order to understand what fluency is, the students need to hear a fluent reader. As the teacher and the student work together to read a selected text the student is challenged to keep pace with the teacher therefore increasing the fluent pace of the student (Buchanan, 6). Another strategy is repeated readings. This strategy enables a child to become familiar with the selected text, and the student is able to practice the words they may struggle with. By re-reading, a student is able to improve his/her reading rate and his/her expression. With repeated readings a student may become better able to integrate the various components of reading into a unified process. This unified process may lead to an improved ability to comprehend text (Kuhn, 2005). Partner reading is a strategy that gives a student the opportunity to read the text again and become more familiar with it as well as hear their peer read. When struggling readers are paired with younger readers, they gain confidence as well as practice their reading; when paired with a stronger reader; struggling readers hear fluent reading and are exposed to the text again. Having students practice echo reading also helps them hear and practice reading with fluency. By mimicking a reader, a student can gain an understanding of reading with fluency.

Another strategy is to record students as they read. Then they can hear themselves and identify the areas where improvement is needed (Kuhn, 2005).

In addition there are performance based instructional frameworks designed to promote reading behavior during reading instruction which is linked to students' growth in reading fluency. Read Naturally is a repeated reading method that includes both audio taped and computer models. It combines both supported oral readings and independent repeated readings. The student practices reading the same passage three or four times while listening to a recorded fluent model. The student then continues reading independently. The student finally reads to the teacher with feedback (Greenwood, 2003).

Readers Theatre is a method of reading practice that can increase prosody. The teacher begins by reading aloud a story which is script based and leads a discussion of the characters' emotions and how they might sound at different points in the story. The students practice reading the script before the teacher assigns roles. The script is rehearsed and performed for peers and provides a purpose for the rereading multiple times. This method helps students develop accuracy, rate, and prosody.

PALS-Peer Assisted Learning Strategies allows general educators to provide balanced early reading instruction that incorporates the critical components at appropriate levels of intensity to prevent reading failure. The peer mediated nature of PALS provides teachers with an organizational strategy for delivering decoding instruction and facilitating practice that was intensive and individualized to a degree that would have been virtually impossible to replicate with teacher led instruction(Fuch 2005).

Certain aspects of fluency development and instruction still need to be researched. Research has shown that repeated readings and non repetitive, but scaffold, oral reading have led to growth in fluency. It may be, however, that it is not the repetition that leads to improvement in reading achievement, but the increased amount of text being read that is the determining factor (Kuhn, 2005). The students' purpose for reading also contributed to the ability to achieve fluency and therefore comprehension. When practicing repeated reading strategy, students develop the sense that, while reading, the emphasis was on expression, automatic, and accurate reading of the text instead on the meaning of the text. The non-repetitive readers the focus is on the story as a whole rather than on individual sections of the text. The result is the students read for understanding as well as accuracy, automaticity, and expressive reading. The impression is that once readers have achieved a level of fluency, they are able to automatically shift their attention to the comprehension of the text (Kuhn, 2005).

Summary

Research has clearly shown the significance of fluency in the development of reading proficiency. There are a variety of methods of instruction and assessment that have been developed. It is important to develop all areas of reading for all readers. Reading fluency is acknowledged as an essential skill of reading proficiency and for truly effective comprehension to occur. When a reader lacks fluency, he/she must labor over the decoding of individual words and lose the ability to comprehend what is read. Although reading is composed of many parts the role of fluency is seen to be important to comprehension. Teachers focus on the acquisition of many reading skills and now realize

the effects of fluency in the reading process. Fluency is an essential skill that needs to have a place in reading instruction. Teachers can develop ways to teach fluency which will increase motivation and achieve more proficient readers. Research has shown the significance of fluency in reading proficiency and a variety of methods of instruction and assessments have been developed. In order to have proficient readers the areas of fluency; rate, accuracy, and prosody need to be developed in reading instruction.

CHAPTER 3

DESIGN

The design of this study is quasi-experimental. The study consists of a pretest-posttest control group with two groups formed randomly. Each group received a pretest and one group received treatment. The treatment was an instructional program teaching specific sight words. The control group was treated as usual. Both groups were then given a posttest. Threats to internal validity are minimal due to the random assignment and the presence of a pretest and a control group. The independent variable is the treatment which is selected by the teacher. This instructional program was chosen to see if there was a difference in the fluency of the first grade readers after receiving the program. The two groups were chosen from the first grade class based on their reading level. The two groups perform fairly equally and are moving in their daily instruction at the same pace. The experimental group receives the treatment and the control group is treated as usual. After the treatment the groups were both given a posttest to see if there is a significant difference in their performance.

Participants

The participants in this study were selected from a private school coed environment where this researcher works. They were a selected group of students from the first grade who were reading on similar levels. All students were from high socio-economic backgrounds with strong family support. All students had experience in academic

preschools. There are 20 students in the study all of whom turned 6 prior to June 2009. The control group consists of 9 students, and the experimental group 11 students. The students meet for reading in the first part of each day for 45 minutes. The experimental group receives the instructional program during the first 15 minutes of reading class. The groups have different teachers.

Instrument

The instrument used in this study is the Dynamic Indicators of Basic Early Literacy Skills (DIBELS). DIBELS measures the critical skills that underlie early reading success. It is a validated tool for early identification of children with potential problems and an assessment of response to instruction. Benchmark assessments are given three times a year to all children in a grade. The DIBELS assessment are designed to predict how well children are likely to be doing in reading comprehension by the end of third grade and beyond. DIBELS is based on the findings of two kinds of research: (a) research on the prediction of reading difficulty in young children; and (b) research on what is taking place in the minds of people who are learning to read. DIBELS is a tool for planning instruction no for determining a final outcome of instruction but to improve those outcomes.

The portions of DIBELS used in this study are described below.

1. Phoneme Segmentation Fluency

PSF is a direct measure of phoneme awareness. The examiner gives the child a word or syllable with three or four phonemes and asks the child to say the individual sounds that make up the word. For example, the examiner says SAT and the child says /s/ /a/ /t/. The score is the number of correct phonemes produced in one minute. The measure takes about 2 minutes to administer and has 20 alternate forms for monitoring progress.

2. Nonsense Word Fluency

NWF measures the ability to link letters with sounds and use that knowledge to decode three-letter syllables that alone are nonsense words. The child reads randomly ordered VC and CVC words. The child receives credit for pronouncing individual sounds or the correct sounds in a whole syllable read as a unit. For example, the child receives three points for reading “raj” as a syllable or for saying /r/ /a/ /j/. All the vowels in the syllables are short vowels.

The score is the number of letter-sounds correct in one minute. The child who reads whole syllables will receive a higher score because the rate of correct sound production will be higher than the child who pronounces each sound separately. The child who reads whole words is more fluent: his or her phonics skills are automatized to the point of useful application in word decoding.

The subtest takes about two minutes to administer.

3. Oral Reading Fluency

Benchmark passages at each grade level are used to measure accuracy and speed in oral reading of graded passages. Passages are calibrated for each level.

Students read each of three passages aloud for one minute. The student’s score is

the median correct words per minute from the three passages. Errors are words omitted or substituted, or hesitations of more than three seconds. Immediate self-corrections are scored as accurate.

For the purposes of this study the DIBELS assessment was administered in the winter of the first grade year. Following the assessment the children in the experimental group were given the instructional program on sight words. The post test was then administered following the completion of the instructional program. The results of the assessments were then analyzed to determine the effectiveness of the instructional program.

Procedure

In the beginning of the school year the reading groups were formed using informative assessments of the students as well as the standardized test, Clymer Barrett, used by the school to place the students in the first grade. As a result of these assessments the children were group according to ability. Each group is formed of students with similar abilities. Twenty eight of the seventy students were similar in ability. Due to the number of students two groups were formed. These two groups were chosen for the study. In January of the current school year the two groups of students were given the DIBELS assessment. The children were told that they were assisting the researcher in a special project. Following the assessment one group, in addition to the usual instruction received an instructional program on sight words, the other received the usual instruction. The instructional program lasted three weeks and was followed by the final DIBELS assessment.

The instructional program consisted of 15 minutes of sight word practice each day. Day one 10 sight words were introduced to the students. They made mini books which contained the sight words. The story was read aloud which each sight word highlighted. The children were encouraged to reread their stories using the reading strategies they had learned. The sight words were added to the classroom word wall. The children then were able to color their books and take them home to share with their parents. Day two the children practiced the sight word by filling in sentences with the missing sight word. They were able to use the word wall and their mini book to help complete the sentences with the appropriate word. Day three the students practiced their new sight words by locating them in a word search puzzle. On day four the children make flash cards with the new sight words and played games with each other. Day five the children wrote sentences using any of the sight words. They then were instructed to illustrate their sentence. Each week a new set of ten sight words were introduced with the activities. The children enjoyed watching the word wall grow and knowing they knew all these words. Their pictures were displayed which helped encourage and motivate them.

Chapter IV

Results

Research has shown the significance of fluency in the development of reading proficiency. The implementation of instruction in fluency in a reading program will increase the fluency of first graders. The DIBELS assessment used indicates that there were only minor differences in the average Dibels score for the experimental and control group at the start of the study. This indicates that the two groups were similar in ability at the beginning of the study. (Table 1)

The phonemic awareness measure assesses a student's ability to segment three and four phoneme words into their individual phonemes fluently. This measure has been found to be a good predictor of later reading achievement. The benchmark goal is 35 to 45 correct phonemes per minute in the fall of first grade.

The nonsense word fluency is a measure of alphabetic principle, including letter-sound correspondence and the ability to blend letters into words. Because the measure is fluency based the students receive a higher score if they are phonologically recoding the word and a lower score if they are providing letter sounds in isolation. The benchmark goal for nonsense word fluency is 50 correct letter sounds per minute by mid first grade.

The Oral reading fluency is intended for children from mid first grade through sixth grade. The benchmark goals are 40 in spring of first grade, 90 in spring of second grade and 110 in the spring of third grade. The students read a passage aloud for 1 minute. The number of correct words per minute from the passage is the oral reading fluency.

Table 1

Study Group	Phonemic Awareness		Non Sense Words		Oral Word Fluency	
	Pre	Post	Pre	Post	Pre	Post
Experimental	63	60	52	66	45	61
Control	65	62	51	57	43	41

Table 1 indicated the minor differences in the average Dibels score for the experimental and control group at the start of the study. This helps to assure that any changes seen at the conclusion of the study are due to the intervention. The experimental group out performed on average the control group in the areas of nonsense words and oral reading fluency. This is a strong indication that the intervention was a factor in increasing the skills of students in the experimental group. The intervention is good for promoting skill growth of the students.

Table 2

Mean Change in Dibels Subscale Scores

Study Group	Phonemic Awareness		Non Sense Words		Oral Word Fluency	
	Mean	Range	Mean	Range	Mean	Range
Experimental	7.0	46-76	13.6	37-67	10.6	31-66
Control	2.9	49-76	5.2	13-72	2.3	54-74

The experimental group had a larger mean point changes that the control group in each of the Dibels subscales which further strengthens the impact of the intervention. A secondary finding shows the even on Phonemic Awareness where the experimental group

on average did not at posttest outperform the control group, their mean growth between pre and post test was larger.

The following table assesses if the difference between the experimental and control groups were significant. Statistically significant is assessed as $p < .05$. In the table below there were no differences in the pretest scores for the experimental and control groups.

Table 3

ANOVA Results		Sum of Squares	Degrees of Freedom	F	Significance
Pre phone	Between Groups	16.471	1	.154	.700
Pre non	Between Groups	3.230	1	.027	.871
pre oral	Between Groups	8.743	1	.026	.874
post phone	Between Groups	18.159	1	.243	.629
post non	Between Groups	352.861	1	1.889	.189
post oral	Between Groups	1701.621	1	4.399	.053

At post test, the difference between the two groups was very close to statistically significant for the Dibels subscale of oral fluency. ($P < .053$). This is a strong indication of the impact of the intervention in dramatically improving students' oral fluency. The near significant results indicate that the difference in performance is not due to chance—rather it is due to the intervention. Therefore the intervention used in this study had a significant impact on the oral fluency of students.

Chapter V

Discussion

Children who receive a sight word instructional program may increase their fluency in reading as seen by this study. The instrument Dibels was chosen because it measures the critical skills that underlie early reading success. Dibels is a measure used for determining instructions that is needed for students to become successful readers. After reviewing the results of the pre test the researcher realized there were only minor differences in the average score for the experimental group and the control group, therefore the groups were chosen correctly. This indicates that any change in the scores after the intervention would be due to the effects of the intervention. The factors affecting the validity of the study are the length of the intervention was short, the number of students in the study was small, and the population was limited to a high socio-economic group of students. However the results do help us to realize the effect of teaching fluency is beneficial to increasing the fluency in first grade students.

Chapter Two, gives results of research studies. Miller indicates, when a student has to put more time into decoding, they lose the meaning intended by the author. Using this intervention the students learned their sight words quickly which enabled them to read more fluently. They were able to minimize the time decoding and increase the rate they read which helps with the comprehension of the reading passage. As Jager-Adams suggests in chapter 2, the ability to read words quickly, accurately and effortlessly is critical to skillful reading comprehension.(Jager-Adams, 1992)

Results from this study shows no differences in the pretest scores for the two groups. At the post test the differences between the two groups was close to statistically significant. This significant difference indicates that the intervention was effective in increasing fluency in first grade students. The increase in fluency is not due to chance but a direct result of the intervention.

Utilizing this intervention program provided the teacher with a specific format for teaching sight words. The words were provided and the schedules of activities were also provided. The activities were interactive and fun for the students and were accomplished in a short period of time. Working with a few sight words over a period of a week provided repetition and review which enable the children to commit the words to memory. The words were learned in isolation as well as within the context of sentences or phrases. Kuhn expresses in Chapter 2 that with repeated readings a student may become better able to integrate the various components of reading into a unified process. This process may lead to an improved ability to comprehend text. This intervention program supports Kuhn's theory in the repetition of learning the sight words.

Fluency is an essential skill needed for proficient readers. Teaching sight words in first grade students is an important component to developing fluent readers. The intervention used in this study shows the impact of learning sight words on fluency rates. By assisting the students in becoming more fluent readers they will become more proficient readers.

The time for the intervention was short which limited the effectiveness of the intervention. Future research would benefit by repeating the study with a longer intervention period. The sample size utilized was also small and the results may differ

given a larger sample size. Future research using different grade levels would give broader results on the intervention program. The intervention program was effective given the results of the study however the benefits of the intervention program may be greater if the time period was longer and the sample size was larger and more grade levels were used.

In addition to this research educators need to look at other fluency programs and their impact on reading for students. Fluency needs to be a part of the whole reading program as researchers have shown. It is an essential skill necessary to develop proficient readers.

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