**THE EFFECTS OF REPEATED READING AND TYPES OF TEXT ON ORAL
READING FLUENCY**

by

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This study investigated the effects of repeated reading of decodable and less decodable text on oral reading fluency, specifically accuracy and correct words read per minute. In addition the study sought to determine if a particular text type facilitated oral reading fluency for good, average, or poor readers. Participants read either decodable or less decodable texts or received regular classroom instruction. The two treatment groups reread two narrative and one informational text using four different techniques, (e.g. echo, choral and two variations of partner reading). The comparison group read a different leveled text each week as part of their regular classroom instruction. The leveled text was not reread. Treatment and comparison groups did not differ on post measures on nonsense word fluency or passage reading. Both treatment groups regardless of ability level increased significantly in words read correctly for each story. Thus, the repeated reading of text did have an effect on correct words read per minute. There was no significant difference between the groups reading decodable and less decodable text for two of the three stories read, regardless of reading ability. There was a significant difference between the two groups of low ability readers on one story, with the students reading decodable text making a significant gain in oral reading fluency.

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1. Introduction

Good and poor readers have been compared on various aspects of reading including phonemic awareness, the alphabetic principle, vocabulary development and oral reading fluency. As Biemiller (1977-1978) and Allington (1980, 1983, 1984) have documented, large differences in reading practice between good and poor readers begins to emerge as early as the middle of the first grade year. Those students who are "good readers" read more and have a greater number of reading experiences. This greater amount of reading aids in vocabulary development, comprehension, and oral reading fluency. Stanovich (1986) dubbed this educational sequence where early achievement spawns faster rates of subsequent achievement as "Matthew effects." This concept of Matthew effects springs from findings that individuals who have beneficial early educational experiences learn to use new educational experiences more efficiently (Walberg &Tsai, 1983). There are several factors that contribute to Matthew effects in reading development. Those who do well at the start may have been rewarded more often for their early accomplishments. Thus those who read well continue to read more and those who do not, read less and are less motivated to read. Oral reading fluency suffers because of this lack of exposure to text.

Allington (1983) noted this discrepancy in the amount of reading between good and poor readers. Allington's point was if students aren't reading, how are they ever going to get better? Students seen as good readers read more and received less intrusive instruction than poor readers. Their instruction centered on higher order comprehension

skills. Poorer readers on the other hand read less text and their instruction centered on

phonetic and word recognition skills and not on comprehension. Allington's point is that

the instructional focus needs to change so that disfluent readers have the opportunity to

read more text to increase their reading fluency. Developing one's fluency gives students

a sense of accomplishment and if they feel they can read, they will probably read more.

This increase in reading volume should assist them in their fluency development. Few

children who can read in primary grades have future difficulties, while students who are

poor readers early in their school careers often remain poor readers. (Juel, 1988).

Although fluency is seen to be an important feature of good reading instructional

programs, it is still a neglected part of reading instruction. This is pointed out in Richard

Allington's (1984) article "Fluency: The neglected reading goal." He stated that fluency

in oral reading is noted as a characteristic of poor readers, but is seldom treated.

According to Allington, reading fluency is not part of instructional objectives, reading

hierarchies, teacher's manuals, daily lesson plans, individualized educational plans or

remedial interventions. Yet, empirical evidence shows fluency is trainable and that

fluency training improves overall reading ability (Chomsky, 1976; Dahl, 1974;

Dowhower, 1991; Kuhn & Stahl, 2002; Samuels, 1979).

The National Assessment of Educational Progress (NAEP) conducted a large

study on the status of fluency achievement in American education (Pinnel et al, 1995).

They examined the reading fluency of a nationally representative sample of 4th graders

and found 44 % of the students to be disfluent even with grade level stories that the

students had read under supportive testing conditions. That study found a close

relationship between fluency and reading comprehension. Students who are low in

fluency may have difficulty getting the meaning of what they read.

The National Reading Panel (NPR), in its synthesis of reading research,

investigated oral reading fluency as well as phonemic awareness, phonics,

comprehension, and vocabulary. The NRP viewed the concept of fluency as an essential

aspect of reading and investigated the effectiveness of two major instructional approaches

to fluency development. They looked at studies that emphasized repeated oral reading

practice and guided repeated oral reading practice and did a meta-analysis of these

studies. Their review of literature indicated that classroom practices that encourage

repeated oral reading with feedback and guidance leads to meaningful improvements in

reading performance for both good readers and those experiencing difficulties. Indeed,

guided oral reading procedures had a consistent and positive impact on word recognition,

fluency and comprehension. The NPR recommended that fluency be defined as the

ability to read a text quickly (speed), accurately (word recognition), and with proper

expression (intonation, stress, and prosody).

Much research has been conducted on the methods developed to improve oral

reading fluency and their effects on oral reading speed, accuracy, prosody and

comprehension of text (Blum, 1991; Dowhower, 1991; Herman 1985; Kuhn & Stahl,

2002;, Samuels, 1979; Schreiber, 1980).   One method, repeated reading of a text, comes

from LaBerge and Samuels's Model of reading acquisition. The idea is if students can

recognize words faster and with less attention, they will be able to give more attention to

comprehending what they are reading. Practice reading of the text will allow students to

become automatic with their word recognition.   Kuhn and Stahl (2002) cite the work

done by Samuels and Dahl, and their development of the process of requiring a reader to read a passage repeatedly and to continue reading until they reached a criterion of 100 words per minute (wpm). Samuel's modified the method and established a more flexible wpm rate dependent on the reader's grade level and reading level placement. Other researchers have utilized this method and found an improvement in speed, word recognition and comprehension (Dowhower, 1987; Herman, 1985; O'Shea and Sindelar, 1984; Rashotte and Torgensen, 1985).

Reading development can be viewed as a series of qualitatively different stages through which learners proceed (Harris & Sipay, 1990; Kuhn and Stahl, 2002). One stage model that demonstrates fluency's importance on the overall picture of literacy is Ehri's model of sight word development. In Ehri's phases of sight word development, when students become better at sight word recognition or high frequency words, their fluency of text improves. Better sight word recognition allows them to read at an improved rate. As the learners progress within the fluency stage and develop automatcity of sight word reading, they seem to go through a series of phases (sight word development). Ehri suggests that words become sight words through a thorough analysis of their orthographic structure. The resulting mental representation enables a reader to access the word quickly and automatically. The consolidated alphabetic phase in sight word development ensures that the learner establishes automatic and accurate word recognition that is integral to the reading process.

Fluency is important because it affects so many aspects of the reading process such as accuracy, speed, and comprehension. One's ability to recognize words quickly, read at an appropriate rate, read with expression and comprehend what is being read is a

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goal for all students.   A lack of fluent oral reading may affect teachers and students

perceptions of their reading performance.

One aspect of oral reading fluency that has not been addressed in the research is

the type of text most beneficial for developing fluency.   The NRP stated that "Research

is needed to attempt to disentangle the particular contributions of components of guided

reading; such as oral reading, guidance, repetition and text factors." (NPR, 2000, p. 3-4)

The panel found that repeated reading and other guided oral reading procedures have

been shown to improve fluency and overall reading achievement. However, more

research evidence is needed that examines the impact of these procedures on different

levels of students. (NRP, 2000)   The panel goes on to say that, "It would also be

worthwhile to determine the amount of such instruction that would be needed with most

students and the types of materials that lead to the biggest gains when these procedures

are used." (NRP, 2000, p. 3-28)

One researcher, Hiebert (2002) did an extensive analysis of the text used in the

studies analyzed by the National Reading Panel.   She found that a number of texts were

used in the studies with differences, between pre-1990 and post -1990's.   The pre -1990

texts were basal text, skill builder text, and high interest/low vocabulary text while the

post -1990 texts came from children's literature. Hiebert clustered text with controlled

vocabularies, and determined that they were used in 77%-81% of the studies on which

the NPR's conclusions on fluency were based (Hiebert, 2002).   She then analyzed

features of these texts. The pre -1990 texts were considered controlled vocabulary text

and they contained approximately 26 unique words per 100 words. Words that were

infrequent or multisyllabic and difficult to decode or were considered critical or hard

words accounted for 13-16% of the unique words in these texts. The post -1990 texts contained about 10 more unique words per 100 than the other three texts. The post -1990 literature texts contained more unique words, fewer high-frequency words, fewer words beyond 1,000 most frequent words that are monosyllabic and decodable, more infrequent and difficult-to-decode words and two to three times as many singletons (Hiebert, 2002). The smaller number of unique words in controlled texts means more intra- and intertext repetition of words than in the literature texts of today. Therefore, the controlled texts manifest the higher level of shared words that Rashotte and Torgesen (1985) identified as a factor in improving fluency among struggling readers. Since controlled vocabulary texts contain a higher percentage of high-frequency words or easily decodable words they provide increased practice with a large number of words that students are expected to read in content area text in the middle grades and high school. Hiebert felt that the relatively high proportion of critical words and singletons in literature texts is unlikely to support smooth, facile reading of the grade level words. The analysis of text types suggests that students need more than guided, repeated reading opportunities if fluency patterns are to be improved; they need practice with text that they can read easily. This may be especially significant for beginning and struggling readers.

For fluency development, Hiebert designed a new text called Quick Reads. She based Quick Reads on features identified by cognitive scientists in recent research and with selected features of the controlled text analyzed by the NRP.

Three areas of research were used to design Quick Reads intervention text: (a) linguistic content, (b) conceptual or subject content, and (c) metacognition of reading rate. To ensure a high level of shared vocabulary, the intervention texts were designed to

have a minimum of 90% of the unique words fall within the third grade curriculum. In the intervention the remaining 10% of unique words, the critical words, were repeated an average of four times. This rate was chosen based on data from Reitsma (1988) as a rate of repetition identified as a threshold for retention of new words. The intervention text was informational because Pappas (1993) has suggested that children express a preference for informational over narrative texts as early as kindergarten. Also fluency practice with informational text could increase background knowledge and increase engagement. The intervention texts were intended to be read in about one minute so the text length was approximately 100 words.

The best type of text to develop fluency, or even if a type of text best facilitates fluency development has yet to be determined. A question remains if any specific text types best develops various aspects of oral reading fluency. Another question is whether a particular type of text best facilitates fluency development of good, average and struggling readers.

Repeated reading of text has been shown to improve aspects of oral reading fluency. Therefore it is reasonable to use this strategy with a text type to develop fluency. Information may help to determine whether there are text types that best support fluency development for various types of readers. The lack of research on the type of text that may affect various aspects of reading performance and fluency development is the issue that prompts and frames the present study.

1.1.   Research Questions

The present study investigated whether a particular type of text best facilitated aspects of reading performance such as rate and accuracy. Another interest of this study was whether a specific text type was more beneficial to good, average, and struggling readers. The strategy of repeated readings of text was used with the various text types since it has already been established as a strategy to enhance fluency development.

To obtain information on the effects of text and oral reading practice on good, average and poor readers, the following questions were posed:

1.   Are there significant differences on pre and post measures of decoding and fluency between the performance of students in the intervention groups and the comparison group?

2.   Are there differences in reading performance of students who experience reading decodable text and students reading less decodable text, on pre and post measures of fluency for each of the selections read by the two groups?

In addition, student's perceptions of instructional procedures was attained.

1.2.   Definition of Terms

<u>Fluency,</u> Fluency is the ability to read accurately, quickly, expressively, and with good phrasing. Fluency is correlated to comprehension.

<u>Decodable Texts,</u> Decodable Texts contain pretaught phonic elements and high frequency words. One type of decodable text is <u>The Family Tree</u> by Deb Eaton (Ready Readers published by Pearson Learning).

<u>Less Decodable Texts,</u> Less Decodable Texts use fewer words that are decodable as based on previous phonics instruction. Illustrations provide picture clues, and the books

use repetitions to teach new words at times.   An example of less decodable text is

Animal Hospital by Joe Ramsey (Wright Group) and other books in the Story Box and

Sunshine Books Wright Group.

Echo Reading , Echo Reading is a type of reading where one reader reads a sentence or

paragraph and a second reader(s) repeat the exact same sentence or paragraph.

Choral Reading, Choral Reading is a type of reading where all readers read the same

story saying each word together at the same time.

Paired Reading, Paired Reading is a type of reading used in this study to support

rereading of text.   Each student read the same text as his/her partner. One person reads a

part or the whole story while the other person listens. Then the roles are reversed, so that

each person has an opportunity to read and listen to the selection.

Paired "Popcorn" Reading, Paired "Popcorn" Reading is similar to paired reading except

that a student can stop reading at any time, at the end of a sentence, at the end of a phrase,

in the middle of a line, or at the end of a page. Where ever the reader stops the partner

will start reading and read until he/she stops and then the first reader starts reading again.

This continues until the entire selection is read.

Reading Coach A student who serves as a Reading Coach assists the partner to decode or

identify an unknown or unfamiliar word. This assistance is in the form of phonetic cues

or contextual cues in this study.

Critical Words A critical word is a hard word and a word that students need to identify

for comprehension of the text. These words are not decodable or high frequency words.

Singletons A singleton is a word that appears only once in the text.

2.   Review Of Literature

This review is based on literature drawn from four areas of educational research which form the foundation of this study. The first area of research considers stages of reading development and models of reading acquisition process.   Two stage models that demonstrate fluency's importance on the overall picture of literacy are Chall's model focusing on the growth of word recognition and Ehri's phases of sight word learning. Ehri's phases point out the contributions that automatic word recognition makes to fluent reading. Three models of reading acquisition will be described in light of their influence on fluency development.   LaBerge and Samuels Model of reading is an example of an interactive model of development. Gough's Model is as an example of a bottom up model of reading and lastly Goodman is discussed as an example of a top down "model" of reading acquisition.

The second area of research reviewed concerns methods to develop oral reading fluency. Most of the research utilized repeated readings of text and the Neurological Impress Method as means to increase fluency. The rereading of text has increased oral reading rate, word recognition and accuracy, and comprehension. The use of paired or partner reading has been utilized to increase fluency and help with recall of text. Recent research has viewed prosody as a means to improve fluency.

The third area of research considers text type and features that may affect oral reading fluency.   Studies have employed various texts for fluency development, but no definitive text has been designated appropriate for fluency. Although fluency gains have been achieved utilizing various text, the question remains if one type of text with certain

features would better develop fluency. Current research suggests that text with certain characteristics may help to develop fluent reading.

The fourth area of research consists of various measures used to assess fluency development. The National Reading Panel (NRP) cites four indicators of reading fluency. The four used in their analysis of research are Informal Reading Inventories (IRI), Miscue Analysis, Pausing Indices and/or Fluency Scales, and Running Records. Curriculum-Based Measures (Deno, 1987; Fuchs, 1987) are very indicative of reading fluency changes and is included in the discussion.

The areas of research concerning ways to develop fluency and type of text used address the present goals of this study which consider if repeated readings of text developed to promote fluency have a positive effect on this development with good, average, and poor readers.

2.1. Stages of Reading Development

Reading development can be viewed as a series of qualitatively different stages through which learners proceed (Harris & Sipay, 1990). Development in each stage is dependent upon the concepts learned in previous stages. Each stage is then a prerequisite for the learning that follows. Two stage models that demonstrate fluency's importance on the overall picture of literacy are Chall's model focusing on the growth of word recognition and Ehri's phases of sight word learning and the contribution that automatic word recognition makes to fluent reading.

Chall's initial stage of literacy learning is prereading. Here literacy behaviors are developed prior to formal instruction. Children are developing concepts about print, phonemic awareness, and book handling knowledge. They come to recognize that print

represents language and carries the story's message. Next comes the stage of conventional literacy or beginning formal reading instruction. At this stage the instructional emphasis is developing the learner's recognition of basic symbol recognition while providing them with sufficient opportunity to establish their decoding skills. This is followed by a period called confirmation and fluency, or ungluing from print (Chall, 1996). The learners gain confidence with print enabling them to transition from learning to read to reading to learn. Readers confirm what is already known in order to develop their fluency. Students having established their accuracy in decoding during the previous stage, now develop their automaticity with print. They are able to make use of prosodic features such as appropriate phrasing, stress and intonation in their reading. Without automatic processing students will continue to expend a large percentage of their attention on decoding which leaves them with an inadequate amount for comprehension (Adams, 1990; LaBerge & Samuels, 1974;Stanovich, 1980,1986). This raises the question of how the amount of attention given to decoding and not to comprehension effects a student's perception of his/her reading performance?

Ehri's phases of sight word development also illustrate the importance of fluency. As students become better at sight word recognition or high- frequency words their fluency of text improves. As the learner progresses within the fluency stage or the unplugging from print and develops automaticity of sight word reading, they seem to go through a series of phases (sight word development). Ehri suggests that words become sight words through a thorough analysis of their orthographic structure. The resulting mental representation enables a reader to access the word quickly and automatically. Each additional encounter with the word triggers the memory of these words in the

learner. The identification of these words includes information about the word's spelling,

pronunciation and its meaning.   Ehri proposes that such a full depiction occurs in four

indistinct phases: Prealphabetic, partial alphabetic, full alphabetic and consolidated

alphabetic.

During the prealphabetic phase readers remember sight words by making

connections between certain visual attributes of a word and either its pronunciation or its

meaning. This is considered prealphabetic because letter-sound relationships are not

involved in the recognition process. This strategy is an effective one as long as the

number of words encountered remains low. The second phase is the partial alphabetic

recognition. Students begin to read sight words by making the connection between some

of the letters in written words. This is usually the initial and/or final letters because of

their pertinence and their corresponding sounds. This phase is facilitated by knowledge

of letter names and a certain amount of phonological awareness. Readers at this stage

still lack full knowledge of the spelling system and the ways in which to segment and

match phonemes and graphemes, so this form of sight word recognition remains

incomplete.

Learners move toward full alphabetic coding as they continue to develop an

understanding of the alphabetic system. Readers now recognize how most graphemes

represent phonemes in conventional spelling. Readers can easily recognize different

words with similar spellings because each word's representation is adequately complete.

Readers are able to read new words by determining how the unfamiliar spellings will be

pronounced. Learners at the full alphabetic phase can decode words, and words that are

encountered amply become sight words. Recognition is immediate even for those words

that are phonetically irregular and not decodable using sound-symbol correspondence rules. During the final phase, the consolidated alphabetic phase, the learners come to recognize letter patterns that occur across different words as units. The consolidated alphabetic phase in sight word development ensures that the learner establishes automatic and accurate word recognition that is integral to the reading process. This is an important part of becoming a fluent reader. Thus we can see that the developments of word recognition and sight words are important for fluency development.

2.1.1.   Models of Reading Acquisition

A model of reading acquisition attempts to explain what a reader does from the time his eye meets the page to the point of comprehension of what he has read. Each model has different components to explain what is happening during this process. LaBerge and Samuels's model is an example of an interactive model of reading acquisition. A major part of this model is attention. This model assumes that attention is required to derive meaning from text and the amount of attention an individual possesses is limited. Although attention is seen as a renewable resource in order to process text, attention must be allotted with care (Pearson, 1984). Two tasks are performed when we read, decoding and comprehension. LaBerge and Samuels's definition of decoding is going from the printed word to some articulary or phonological representation of the printed stimulus. Comprehension is deriving meaning from the material that has been decoded. Both of these tasks require attention. Comprehension always requires attention; however decoding may require more or less attention, depending on the skill of the reader. If the reader is fluent, little time will be spent on decoding words and more attention can be

spent on comprehending the text. However if the reader is disfluent then this student will be allocating a great amount of attention to decoding leaving little time for the comprehension of text. So both decoding and comprehension require attention and the amount of attention required will vary on decoding skill of the reader, familiarity with the word in the text, and the topic and ideas units in the text. The demands of decoding and comprehension may exceed the limited attention capacity of the student. To overcome this, the beginning reader uses a simple strategy of attention switching. However attention switching is time consuming leaving little attention for comprehension. With time and practice there is a transition to the skilled stage when the decoding task can be performed with almost no attention. The skilled reader who has become more automatic can do two things at once, decode and comprehend. Better word recognition and rate will make the student a more fluent reader. Attention switching is only necessary occasionally by fluent readers.

The LaBerge and Samuels model begins with a visual-memory component. This component is used in word recognition and may vary from small distinctive units such as letters to larger units as an entire word. The size of the visual unit will depend on the reader's skill, familiarity with the word, and the purpose for reading. The LaBerge and Samuels model doesn't propose a strict letter by letter sequence to word recognition, however poor readers may have to go through this sequence regardless of the context of the word. Skilled readers have optional sequences which they may pursue because attention can be allocated in a variety of ways depending upon the demands of the task.

The next element of this model is Phonological Memory. All of the other components in the system feed information into the phonological memory. It contains

units that are related to acoustic and articulatory inputs. In recent years evidence has

been gathered to the effect that certain kinds of articulatory motor responses made in

programming a speech sound may be involved in perceiving that sound. The

organization of codes in phonological memory is similar to the organization of codes in

visual memory. The size of the units represented in phonological memory increase in

size with the reader's ability. The units in this memory include distinctive features,

phonemes, syllables, and morphemes.   The phonological memory provides a mediating

link between visual and semantic memory. The size of the unit selected from visual

memory for processing is recoded and a counter-part found in phonological memory.

Both beginning and skilled readers, who are reading difficult text, engage in phonological

recoding.

The next component of this model is Episodic Memory. Although episodic

memory is involved in the recall of specific events related to people, objects, location,

and time, it does not play a major function in fluent reading. It does help to recall

information that might be organized around "wh" words - when (time), where (location),

who (people), and what (objects).

The last component of this model is Semantic Memory which is involved in the

recall of general knowledge. In a reading situation it is used when a reader applies

knowledge of letter-sound correspondence and sound blending to decode unusual words

or when we read and understand what is read.   We store our general information about

the world in semantic memory.   This part of the model plays a major part in the

comprehension of one's experiences and what one reads. The semantic memory matches

the information coming in from outside the head with knowledge stored in the semantic

memory network. The better the match, the more we comprehend. In this model comprehension is viewed as the process of bringing meaning to text. This accounts for the fact that the same text can be interpreted so differently by different readers.

The main focus of this model is that accurate and automatic word recognition allows a reader more attention to process text and comprehend the text being read. This model is non-hierarchical, since it contains feedback loops at any stage that allows a reader to go back and forth between components. There is a variety of routes information takes. In this way the model is interactive. The role of this model to fluency is demonstrated in various components contained in the view of reading acquisition.

Gough's bottom up model is another theory to explain reading acquisition (Samuels & Kamil, 1984). In this model each stage transforms input and then passes the recorded message to the next stage processing incoming data to higher level, encoding. This model is linear in nature and is centered on word recognition. The main focus of this model is how text is processed from the time the eye looks upon the printed word to the time meaning is derived from the visual input. Gough's model begins with an image or icon which is identified by eye movement or saccadic movement. This progresses to letter identification. Gough believes that the identification of letters by fluent readers occurs rapidly and that we identify letters serially from left to right into some form of character register. Gough posits the possibility that the reader maps print not onto speech but into a string of systematic phonemes. Individual words are stored in primary memory until they can be meaningful and comprehended. The primary memory system is capable of both rapid input and output of information. However the amount of time it can store information without active rehearsal is severely limited. A device called Merlin extracts

the deep structure of the word string. Sentences are stored in the "Place Where Sentences Go When They Are Understood" (PWSGWTAU).

This model connection to fluency lies in the main focus of the model, word recognition. The faster one recognizes words the more fluent the reading of the passage. Unlike LaBerge and Samuels's interactive looping model, this model is linear and focuses on one aspect of the reading process. Although comprehension is mentioned it really is not clear just how one understands what is being read. What is understood is that in order to comprehend one must pass through each component of this model.

Another type of model of reading acquisition is a top down view of reading. In this type of model the stages are higher up and at the end of processing interact with stages which occurred earlier. The reader is sampling for verification.   Kenneth Goodman describes such a model or position as a "psycholinguistic guessing game". In this model the flow of information proceeds from the top downward so that the process of word identification is dependent first on meaning. Fluent readers are actively engaged in predicting or hypothesis-testing when progressing through text. The reader samples the print and makes predictions as to what the word might be based upon prior knowledge of the topic and sentence sense. These guesses are accepted hypotheses and confirmed as meaning is constructed. When the prediction fails to make sense, the guess is rejected. The reader, who is seeking meaning is compelled to re-sample the print, and at this time perhaps employs orthographic and/or syntactic cues to facilitate decoding. If the reader confirms the hypothesis and constructs meaning, new knowledge is then assimilated. This model supports Goodman's definition of reading which is that "Reading is a selective process. It involves partial use of available minimal language cues selected

from perceptual input on the basis of the reader's expectation. As this partial information is processed, tentative decisions are made to be confirmed, rejected, or redefined as reading progresses" (Goodman, 1967, p. 498). This model refutes the view that reading is a precise process that involves exact, detailed sequential perception and identification of letters, words, spelling patterns and large language units. In other words the reader relies on existing syntactic and semantic knowledge structure so that reliance on the graphic display and existing knowledge about sounds associated with graphemes can be minimized. There is little reference to fluent reading except that readers are actively engaged in predicting or hypothesizing when progressing through text. Since fluency is seen as speed, accuracy, and prosody, there is little reference to these properties in this model or position.

The three models presented thus far represent the three most prominent theories or positions about reading acquisition. Many decisions and ideas about beginning reading and fluency are based on these models. These models have influenced reading instruction and materials developed for instruction. They have shaped our view of reading acquisition and research conducted in the area of reading. Reading therefore can be viewed as interactive, top down, or bottom up depending on the model of acquisition.

Much fluency research has employed repeated reading of text to increase fluency. This technique stems from the research model of LaBerge & Samuels. This model is an interactive interpretation of what happens from the time the eye meets a text to the point of deriving meaning. The automaticity and accuracy of word recognition increases the speed of reading a text, therefore one has more attention to devote to the

meaning of the text. The interactive view of reading in which the reader actively engages with text represents the current cognitive view of reading. Recent models view reading as an interactive process (LaBerge & Samuels, 1974; Perfetti, 1985; Stanovich, 1980).

The models of LaBerge and Samuels (1974) and Stanovich (1980) share the assumption that efficient low-level word recognition frees up capacity for higher level integrative comprehension of text. This is a key point for the argument that fluent oral reading from text serves as a performance indicator of overall reading competence. This includes the reader's capacity to process meaningful connections within and between sentences, to infer the structure of the passage, to relate text meaning by checking consistencies with prior information and making inferences to supply missing information. The fluency with which an individual translates text into spoken words should function as an indicator not only of word recognition skill but also of an individual's comprehension of that text (Fuchs, et al., 2001). In other words oral reading fluency appears to reflect individual differences in overall reading competence.

Perfetti discussed fluency-related concepts in terms of an overall account of reading ability in which verbal efficiency theory played a major role (Wolf and Katzir-Cohen, 2001). His account of verbal efficiency was a theoretical effort to explain how "individual differences in reading comprehension are produced by individual differences in the efficient operation of processes". When the underlying systems were efficient, the individual was considered able to free cognitive resources to focus on higher level demands in reading. This is important for comprehension. Perfetti suggested that an inefficient system resulting in a slow rate of word recognition could obstruct the

individual's ability to hold large units of text in working memory (Wolf and Katzir-Cohen, 2001). This in turn would affect comprehension and recall of text. Perfetti's work provides the figure-ground perspective from which to view fluency today-as a means to reading comprehension (Wolf and Katzir-Cohen, 2001).

The definition of reading is deriving meaning from text. Reading today is viewed as an interactive process, where the reader interacts with text. The speed at which one recognizes words affects this interactive process, reading comprehension and reading fluency. The LaBerge and Samuels and Gough models of reading both recognize the importance of rapid word recognition to accommodate comprehension and reading fluency. The LaBerge and Samuels model also addresses the component of attention devoted to word recognition and comprehension, and an interactive loop. The speed that words are recognized definitely will affect oral reading fluency. Chall's and Ehri's stages of word recognition and sight word development respectively complement the models of reading. These models identify different stages that a reader goes through on their way to comprehending text; it is only fitting that they be considered when thinking of the type of text that might be developed to increase oral reading fluency. Text for oral reading fluency has not been identified. Only recently has there been any research concerning what aspects of text help to develop fluency.

The speed at which one recognizes words affects reading fluency; therefore text that utilizes decodable and high frequency words may help to develop oral reading fluency. These components should help with the rapid recognition of words which in turn allows more attention for comprehension to occur as indicated in the LaBerge and

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Samuels's model of reading. The student will not only be a more fluent reader, but may have better comprehension as well.

2.2.   Fluency Development Research

The second area of research reviewed here involves strategies or ways to increase reading fluency, specifically the use of repeated readings and the Neurological Impress Method (NIM) and paired or partner reading. The reviewed research suggests improvements in speed, accuracy, words recognition, and comprehension. Improvements in prosody have also been noted.

2.2.1.   Research on Developing Fluency

The National Reading Panel's (NRP) report on reading indicated phonemic awareness, phonics, fluency, and comprehension are necessary components of   balanced comprehensive reading instruction.   Fluency is defined by the NPR as the ability to read a text quickly (speed), accurately (word recognition), and with proper expression (intonation, stress and prosody).   However fluency is a neglected part of reading instruction (Allington, 1983; Rasinski, Padak, & Linek, 1994).   Allington's article "Fluency: The neglected reading goal", states that fluency in oral reading is noted as a characteristic of poor readers, but is seldom treated. Allington feels reading fluency is not part of instructional objectives, reading hierarchies, teacher's manuals, daily lesson plans, individualized educational plans or remedial interventions. He further states that empirical evidence shows fluency is trainable and that fluency training improves overall reading ability (Chomsky, 1976; Dahl, 1974; Samuels, 1979).

A large study of the status of fluency achievement of American education was conducted by the National Assessment of Educational Progress (NAEP). This study examined the reading fluency of a nationally representative sample of 4th graders and found 44% of students to be disfluent even with grade level stories that the students had read under supportive testing conditions. The study found a close relationship between fluency and reading comprehension. It seems that students who are low in fluency may have difficulty getting the meaning of what they read.

In Preventing Reading Difficulties in Young Children (Snow, Burns, and Griffin, 1998) Snow states, "Adequate progress in learning to read English (or any alphabetic language) by the initial level depends on sufficient practice in reading to achieve fluency with different texts" (Snow, 1998, p. 223). They further recommend, "Because the ability to obtain meaning from print depends so strongly on the development of word recognition accuracy and reading fluency, both should be regularly assessed in the classroom". Thus when difficulty or delay is apparent in either of these two areas, there should be a timely and effective instruction response

Stanovich's article on the Matthew Effect demonstrates the importance of fluency development. His statement based, on a biblical phrase, that, "the rich get richer and the poor get poorer," can be applied to fluent readers. Good and poor readers get different types of instruction in some classrooms. Good readers read more text and their instruction centers on higher order comprehension skills. Poor readers on the other hand read less text and their instruction centers on phonetic and word recognition skills and not on comprehension. The instructional focus needs to change and present disfluent readers with the opportunity to read more text to increase their reading fluency. The author of

this study feels that developing ones fluency gives students a sense of accomplishment and if they feel they can read, they will probably read more. This increase in reading will assist them in their fluency development.

Hiebert did an analysis of the strategies used to develop fluency in the NRP's studies. Her analysis demonstrated that most of the studies used repeated reading and the Neurological Impress Method to develop reading fluency. She felt the reason for this was because these two methods were prevalent when the studies were conducted.

2.2.2. Research with Repeated Reading of Text

Repeated reading of text comes from LaBerge and Samuels's Model of reading acquisition. This model is based on attention. If a reader can recognize words faster and with less attention, they will have more attention to comprehend what is read. The rereading of text will allow them to become automatic with their word recognition. Kuhn and Stahl (2002) point out that if word automaticity does not occur, the reader must rely on contextual information to comprehend text. As the learner uses resources for contextual information, less attention is left for comprehension.

Samuels (1979) and Dahl (1974) in an attempt to apply LaBerge and Samuel's automaticity theory developed a process that required students to repeatedly read a 100 word passage until they reached the criterion rate of 100 words per minute (wpm). Dahl tested this approach in a study using second-graders. Significant gains occurred on a measure of reading rate and on a cloze procedure. The repeated readings reduced the number of miscues. The number of rereadings required to reach the criterion reading speed decreased as the student continued the rereading of text. Samuels modified the

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method so that passages could be 50 to 200 words and establish a more flexible wpm rate dependent on the reader's grade level and reading level placement. Samuels did stress speed over accuracy. He felt this was an effective strategy for improving not only fluency defined here as automaticity of word recognition, but comprehension as well.

 Chomsky (1976) used a similar method with poor readers. "The procedure proved to be facilitating for slow and halting readers, increasing fluency rapidly and with apparent ease. In this study students listened to stories. The amount of time to reach fluency decreased on successive stories. Within several months the children became far more willing and able to undertake reading new material on their own."

Herman did a study in 1985 to note changes in reading rate, number of speech pauses, and word recognition. She analyzed these factors from the initial and final reading of the first practice passage and for the initial and final reading of the last practice passage. Comprehension growth was estimated indirectly by combining miscues with the total number of words read correctly. She followed the procedure outlined by Dahl (1974) and Samuels (1979) in her study. She utilized the repeated reading technique and set a criterion of 85 words per minute. Most students practiced their stories for four separate days before reaching the 85 words per minute criterion. Students engaged in the repeated readings of five stories.

Her results showed an effect on speech pauses and for reading rate, and a transfer to previously unread material. When she compared the performance of the initial reading of Story 1, students increased their reading rate, decreased their total number of miscues and improved their accuracy significantly by the initial reading of Story 5. There were gains observed within each of the practice stories as well. She notes that repeated reading

had a positive effect on student's oral reading, transferring from one story to another over time.

Dowhower (1987) conducted a study to find if repeated readings assisted in reading rate, accuracy, and if fluency gains are transferred to other texts. She incorporated assisted and unassisted repeated readings as a part of her treatment. Her rationale for using repeated readings was based on LaBerge and Samuels (1974) automaticity theory and Perfetti & Lesgold's (1979) verbal efficiency theory where repeated reading seems to increase speed of word recognition. She investigated two issues: effects of repeated reading practice and story transfer effects. Dowhower wanted to see the effect of repeated reading on accuracy and comprehension for first reading of a passage to the last reading of the passage. When her criterion of 100 words per minute was reached, the student's rereading of the passage was completed. The readings were assisted by modeling or by audiotape or unassisted. Her findings showed that repeated readings of text, whether assisted or unassisted, increased reading rate, accuracy, and comprehension. In regards to transfer, her conclusions were that practice of one story was not as effective as the combined practice of several stories. There was a minimum practice effect on only speed and some prosodic indicators. The second grade students in the study significantly increased their skills in speed, accuracy, comprehension and prosodic reading across stories even though there was low word overlap among the five practice passages. She found that prosodic indicators slightly favored the read-along technique, but there were few differences between the two procedures in gains in reading rate, accuracy and comprehension.

The type of text used in fluency studies varies from poetry to text from anthologies. Some studies have tried to investigate if word overlap could increase fluency development. Rashotte and Torgensen (1985) conducted a study to investigate whether the degree of word overlap among passages affected fluency and comprehension across different stories that were repeatedly read. They set out to judge if repeated reading is more effective than an equivalent amount of nonrepetitive reading. In this study nonfluent learning-disabled students read passages presented and timed by a computer under three different conditions. For Condition 1 and 2 the same passage was repeatedly read four times before proceeding to a new story. The stories in Condition 2 contained three times as many overlapping words as stories in Condition 1. In Condition 3 four different passages were used in a session. These passages were not repeatedly read. They found that students reading text with a high overlap of words improved to a greater degree, in rate and accuracy than students reading text with low overlap. It seems that gains in reading speed were affected by the degree of word commonality among stories. The increased speed in Condition 2 appears to be the result of faster identification of words shared by the stories. This further supports Samuels's idea that faster word processing has a positive effect on fluency development. In Condition 3 (nonrepetitive reading) no significant gain in fluency was indicated, probably because of the lack of shared vocabulary in the stories.

The effects of repeated readings on fluency development were conducted by O'Shea and Sindelar et al. (1990). This study's purpose was to determine the effects of repeated readings on instructional and mastery level readers. In this study students were asked to repeatedly read text one, three and seven times to assess the effect on reading

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rate and recall of information.   The results showed a significant increase from one to three readings. This occurrence brought instructional-level readers to near mastery-level performance.   Recall was significantly greater after three readings than after one reading. The subjects for this study were both learning disabled (LD) and non-LD. O'Shea (et al.) concluded that the effects of repeated reading were comparable for LD and the nondisabled reader. Their findings suggested that increases in reading fluency (evidenced by the significant effect for number of readings on the WPM variable) with instructions to recall as much as possible about the passage may constitute a sufficient precondition for improved comprehension.

In this study mastery level readers benefited from repeated readings in the same ways that instructional level readers did. Their reading rate increased significantly from one to three readings, and their recall was significantly greater after three readings than after one reading. The level did not interact with any other factor, so one can conclude that the effects of repeated readings for instructional and mastery level readers were comparable.

Another study conducted by O'Shea, Sindelar and O'Shea (1985) utilized repeated readings of text and attentional cueing for their effects on reading fluency and comprehension. According to O'Shea et al. research has investigated the effects of automatic decoding, but little support exists to substantiate the premise that readers automatically attend to comprehension.   This suggests that students may need to be cued to shift their attention from word recognition to comprehension once fluent reading has been achieved (O'Shea, Sindelar, and O'Shea,1985). Whether the cues are provided intentionally, or inadvertently, readers appear to perceive the purpose for reading based

on the external demands of the reading situation and perform accordingly. O'Shea et al. feel that students do not appear to shift their attention to comprehension automatically when reading fluently. Students react to cues reflecting the purpose for reading.

In this study two groups of students repeatedly read passages under different cue conditions. One group was cued for comprehension and the other was cued to read quickly and accurately. The data from this study indicate that repeated reading facilitates significant comprehension gains. Students retold a significantly greater proportion of the story between one and three and seven readings regardless of the cueing.

According to this research four readings appear to be optimal since after four readings, 83% of the fluency increased between one and seven readings is achieved. O'Shea et al. found this finding to be congruent with results of Spring et al. (1981), who found that with three to five practice readings student reach an optimal fluency level, and error rates decreased as reading rates increased. This is true because as students repeatedly read passages, they became more familiar with vocabulary, syntax, and the content of the passages. It appeared that cuing aided in maximizing comprehension by focusing students' attention and repeated reading aids fluency as well as comprehension by providing concentrated practice.

2.2.3.   Neurological Impress Method Research

Another means to increase fluency is the neurological impress method. Heckelman suggested this method in 1969, as a remedial strategy for disfluent readers. The term actually dates back to 1952 when it was first attempted. The method may be known today as assisted reading since a tutor and tutee read the same material. The neurological

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impress method (NIM) is a system of unison reading by a student and the teacher who read aloud simultaneously, at a rapid rate. The nonfluent reader is placed slightly in front of the teacher with the student and the teacher holding the book jointly. As the student and teacher read in unison, the teacher's voice is directed into the ear of the student at close range. The teacher was to slide a finger under the words and could vary the pace so that the reading is louder and faster or slower and softer. This joint reading continues until the reader notes that the student is becoming tired or uncomfortable. Heckelman conducted the first study employing NIM in 1969. He used the technique with 24 students in 7th through 9th grades. These students were at least three years behind their grade level in reading. Teacher and student read for 15 minutes a day , five days a week, for a maximum of 7 hours. Students selected their own reading material, but were encouraged to select easy material at least in the beginning of the study. Although not all students made substantial improvements according to Heckelman, the mean gain was 1.9 years. This indicated that the instructional strategy was successful in developing oral reading fluency and comprehension.   Comprehension was measured by reading a section of the California Achievement Test silently.

NIM is very time consuming and is conducted on a one-to-one basis. A researcher, Hollingsworth (1970) redesigned the procedure. His procedure could be used with multiple students who listened to a tape recording of the text while a teacher monitored their reading. He conducted a study using 20 fourth, fifth, and sixth grade students identified by their teachers as remedial. The wireless system used in this study allowed 10 students to listen to tape recordings of passages simultaneously. There was a significant effect on the standardized comprehension text. Students using the assisted

reading technique made one year's growth. In this study assisted readings were effective in promoting fluency and comprehension for students identified as remedial.

Keith Topping's techniques of peer tutoring and paired tutoring are another means to improve fluency in a form similar to the NIM method. Peer tutoring can be defined as a more able child helping a less able child in a cooperative pair. The teacher chooses the pair carefully. On sections of the text that are difficult for the tutee, the pair read out loud together. Peer tutoring has the advantage that children seem to like it. It involves learning that is cooperative, active, and interactive. It is characterized by high rates of time on task. Topping states that major research reviews on the effectiveness of peer tutoring in reading have shown that the tutors accelerate in reading skill at least as much as the tutees. Koskinen and Blum (1986) see paired repeated reading as an adaptation of repeated reading and an effective part of classroom instruction. Significant differences were found in its favor in both oral fluency and comprehension.   This strategy gives beginning readers or older students with reading difficulties an opportunity to read contextual material a number of times so they can experience fluent reading.

2.2.4.   Prosody Research

Part of the NPR's definition of fluency is prosody. Prosody is composed of features including pitch or intonation, stress or emphasis, and tempo or rate and the rhythmic patterns of language. All of these components contribute to an expressive reading of a text (Dowhower, 1991; Schreiber,1980, 1991). Prosodic reading includes appropriately chunking groups of words into phrases or meaningful units in accordance with the syntactic structure of the text.

Prosody may provide a link between fluency and comprehension. Schreiber suggests that prosodic cues may be one crucial difference between speech and reading. This is one of the reasons that speech is easier to understand. Dowhower (1991) identified six distinct markers: (pausal intrusions, length of phrases, appropriateness of phrases, final phrase lengthening, and terminal intonation contours and stress) that constitute prosodic reading. Children who have not achieved fluency read either in a word-by-word manner or by grouping words in ways that deviate from the type of phrasing that occurs naturally in speech or oral language. According to Kuhn and Stahl studies indicate that young children are highly attuned to the use of prosodic features in speech. Schreiber (1987) has indicated that children are not only highly attuned to prosodic elements in oral language, but that they are actually more reliant on them for determining meaning than adults. It is reasonable to assume that children are dependent upon prosodic features in determining the meaning of text. Appropriate phrasing, intonation, and stress are all considered to be indicators that children have become fluent readers. Schreiber (1980) feels it is the ability to compensate for the absence of prosodic cues that enables a reader to achieve reading fluency. He thinks oral reading of passages by teacher or some other competent reader would facilitate the child in developing prosody and fluency. The reader would produce the appropriate phrasing of the sentence, and children will have less difficulty imposing such phrasing in their own reading.

O'Shea and Sindelar (1984) found segmented text produced better comprehension that conventional text, as measured by a maze-type cloze test. They worked with primary grade children in their study. This suggests that being able to segment text by phrasal boundaries improves comprehension in primary grade children. These results, from one

study, cannot be generalized to the effects of prosody on comprehension. More research is needed to make these generalizations. According to Kuhn and Stahl it is unclear whether prosody is a cause of comprehension or a consequence.

In the Dowhower (1987) study previously presented, a third rationale for the study came from Schreiber (1980, 1987) use of prosodic cue development to increase fluency. This was the second part of this study. She wanted to see if there is a carry over of reading gains to new but similar passages. For this part of the study the same selection was practiced repeatedly. Her conclusion was that practice of one story was not as effective as the combined practice of several stories. There was a minimum practice effect on only speed and some prosodic indicators. The second graders subjects in the study significantly increased their skills in speed, accuracy, comprehension and prosodic reading across stories even though there was low word overlap among the five practice passages. She found that prosodic indicators slightly favored the read-along technique, but there were few differences between the two procedures in gains in reading rate, accuracy and comprehension.

As suggested by these research studies, repeated reading has been shown to facilitate faster reading rate or speed, greater accuracy, and increased comprehension (Chomsky, 1976; Dahl, 1974; Dowhower, 1987; Herman, 1985; Rashotte & Torgenson, 1985; Samuels, 1979). Paired or partner reading (Koskinen and Blum, 1986; Topping, 1989) also has been shown to increase student engagement with reading, reading skills, oral reading fluency and comprehension.

2.3.   Research on Text Type and Features That Help to Develop Fluency

The text used with beginning readers should promote reading development, fluency, and comprehension. The type of text and its features for beginning reading is very important. A review of the research on oral reading fluency does not pinpoint one type of text that would be most beneficial to promote fluent reading. Various texts were used in these studies including basal stories, anthology stories, rewritten basal/anthology stories and poetry.   In fact text and aspects of text that would be most beneficial to develop fluency has just come to the forefront from research by Hoffman (2002) and Hiebert (2002). Research has been conducted on narrative, expository, decodable and predictable text to determine texts' effect on oral reading fluency, however no definitive text have been determined.

Recent research has indicated a movement from predictable text and anthologies to more decodable text for beginning reading instruction. Decodable text has its roots in phonics instruction and predictable text has come from the whole language movement. Hiebert (2002) has conducted research and developed text that is based on its decodability and use of high frequency or sight words. She feels this type of text will facilitate fluency development.

2.3.1.   Test Type Research

A"decodable" word is a familiar one that a learner has been prepared to sound out or attach speech sound to its letters. Decodable text is composed of words that use the sound-spelling correspondences that children have learned to that point and a limited number of sight words that have been systematically taught (Allington, et. al, 1998;

Grossen, 1997,10-11;). Decodable text has two key features that distinguish it from other types of text. They are composed of words considered phonetically regular and those words are constructed from phonic elements that have been previously taught.

Perfetti concluded that decoding is important to the development of reading skill. He further states that only a reader with skilled decoding processes can be expected to have skilled comprehension processes. He feels that if children do not learn the code to a high degree of skill, their ability to read with comprehension will be at risk. These statements indicate the importance of some decodability in text for beginning readers to be successful.

Research in support of decodable text found that decodable text differed from other text in its match between phonics lessons expressed in teacher's editions and words in print (Barr&Dreeben,1983; Beck & McCaslin,1978; Meyer et al.,1987; Mesmer, 1999; Stein, 1993;). In Beck and McCaslin (1978) analysis of decodable texts they found that between 69 and 100% of words could be read using known letter-sound information. Adams(1990) found that 17 of the 18 different words in decodable texts had a regular relationship between letters and sounds. According to Hiebert (1997) the words in these books have one new word for every eight words. She cautions that although these books encourage more attention to letters and sounds a return to the controlled text of the past is not the best text for beginning reading instruction.

Another type of text being used in beginning reading instruction is predictable text. This text comes from the whole language movement. The whole language principle behind these texts is that children new to reading best learn to recognize written words within the context of whole words, sentences, paragraphs and stories. The idea is that

words, phrases and sentences in these texts become predictable because they are repeated a number of times. Word recognition is supported by the illustration, by patterned repetitive language, by rhythm and rhyme, and the child's ability to anticipate and memorize the language. Predictable text may facilitate the beginning readers to identify words; it may not optimize word learning. According to Adams (1990) "Where text is strong enough to allow quick and confident identification of the unfamiliar word, there is little incentive to pour over its spelling. And without studying the word's spelling, there is no opportunity for increasing its visual familiarity" (Adams, 1990, p.217).

Johnston (1998) did a study where she compared three different types of text and analyzed the kinds of words that occurred. Over half of the words in these predictable texts (52%) appeared only one time, and the average number of repetitions was only 3. In Juel and Roper/Schneider's study (1985) using basal preprimers, the core vocabulary words were repeated an average of 15 times in one series and an average of 26 times in another. Johnson found a large number of concrete words occurred in these texts, and many occurred only once. Johnson concluded," While beginners are more likely to learn words that repeat and are easily decodable, these words were not the most common words in predictable books.

The National Reading Panel (NPR) extensive study neglected to look at text to see how text influences oral reading fluency. A researcher, Elfreida Hiebert, did look at the text used in these studies. She found that in almost all studies to date, students in treatment and comparison groups have read only a single type of text. She then used text typical of these studies in a study of her own to show how text influences fluency.

Hiebert feels that text characteristics may have substantial effects on fluency development.

Rashotte and Torgesen (1985) studied the effects of shared vocabulary in texts used for repeated reading. All texts used in the study came from the Reader's Digest Skill Builders and had a second-grade readability. Rashotte and Torgensen modified the texts to create one set that had low overlap of vocabulary across stories and a second set that had a high level of overlap. Text with the highest percentage of shared words yielded the greatest gains in reading speed. When new stories shared many words with the original story, fluency gains were achieved with these stories. In this study shared vocabulary did not produce significant differences on accuracy or comprehension.

Faulkner and Levy (1994) did a similar study and found that both good and poor readers exhibited the most transfer when words and content were shared. Poor readers improved on both speed and accuracy when text had high levels of word overlap. Word overlap was helpful to poor readers even when the shared words appeared in different stories.

2.3.2.   Text Analysis Research

Hiebert set out to do two studies related to reading fluency. In one (Study A) she used text resembling text utilized in the fluency studies analyzed in the NPR report. In the other (Study B) she developed her own text based on results from the first study. Prior to the late 1980s text had highly controlled vocabulary. This control was achieved through readability formulas that used various high-frequency word lists or the number of syllables per word to determine vocabulary difficulty and sentence length. These texts

were characterized by monosyllabic, frequently occurring words and short sentences and were deemed easier than text with less frequent or multisyllabic words and long sentences. Then in the late 1980s and early 1990s controlled text were replaced by children's literature.   The number of total words in text decreased while the number of unique words increased (Hoffman et al., 1994).   Foorman, Francis, Davidson, Harm, & Griffin, (2002) found that a first-grade text continued to feature high numbers of unique words, many of which appeared a single time.

Hiebert and Fisher (2002) (Study A) studied the effects of text characteristics on fluency during the first trimesters of reading instruction in a first grade classroom. Students were asked to read two types of texts from existing reading programs. Students performed significantly better on reading speed, accuracy, and comprehension when texts had more decodable words and high-frequency words. Drawing on these findings, the available evidence suggests that text characteristics effect fluency, especially among beginning and struggling readers.   The texts in Study A were analyzed for number of unique words per 100 running words of text, percentage of unique words that are among the 1,000 most frequent words identified by Caroll, Davies, & Richman, percentage of words that are monosyllabic and decodable by the end of third-grade, percentage of the remaining words, and the number of repetitions of each word in the previous categories. Hiebert and Fisher (2002) have demonstrated that texts used in successful fluency interventions had several features that distinguish them from the literature that now constitutes basal textbook programs. The stories in the new literature texts have 35 new unique words in every 100 words of running text, while controlled vocabulary texts have around 25. The smaller number of unique words in the controlled texts means more

intra- and intertext repetition of words than in new literature texts. The controlled vocabulary texts have the higher level of shared words that Rashotte and Torgesen (1985) identified as a factor in improving fluency among struggling readers. Controlled vocabulary contains a higher percentage of high-frequency words or easily decodable words. This increases the practice with a large number of words that students are expected to read in content area texts in the middle grades and high school.

On word measures literature texts have more unique word per 100, more critical or hard words and more singletons. The high proportion of critical word and singletons in literature is unlikely to support smooth, easy reading of grade level words. The analysis of text characteristics from Study A suggests that students need more than guided, repeated reading if fluency patterns are to be improved. Students could benefit from improved text design and this is especially relevant for beginning and struggling readers.

Hiebert and Fisher designed and implemented their own text called Quick Reads based on information ascertained on literature text in the first part of the study. Quick Reads text combines features identified by cognitive scientists in recent research with selected features of the controlled texts that were already analyzed.

Three areas of research were used to design Quick Reads intervention text: (a) linguistic content, (b) conceptual or subject matter content, and (c) metacognition of reading rate. To ensure a high level of shared vocabulary, the intervention texts were designed to have a minimum of 90% of the unique words fall within the third-grade curriculum. The initial intervention text was designed for use in third grade. In the intervention the remaining 10% of unique words, the critical words were repeated an

average of four times. This rate was chosen because of a rate of repetition identified as a threshold for retention of new words by Reitsma (1988). Because subject matter knowledge influences interpretations of text and informational texts may have a critical role in generating new knowledge, the intervention text was informational. Pappas (1993) has suggested that as early as kindergarten, children express a preference for informational over narrative texts. This suggests that fluency practice with informational text could increase background knowledge and increase engagement. The intervention texts were intended to be read in about one minute so the text length was approximately 100 words.

Hiebert and Fisher (2002) did a study using the intervention text to assess the impact of Quick Reads in student reading performance. In this study reading speed, accuracy, and comprehension were assessed both before and after the intervention. The Quick Reads used in the study were between 95 and 105 words long. Their text characteristics were as follows: an average of 20 unique words occur per running 100 words; 78% of unique words fall within the 1,000 most frequent words; 12% of unique words fall outside the 1,000 most frequent words but are monosyllabic and decodable; 10% of the unique words fall beyond the 1,000 most frequent words and are not easily decodable; and 2% of the unique words are singletons. The Quick Reads were read repeatedly an average of four times during the course of the intervention.

At the end of the study the four dependent variables were analyzed: fluency, comprehension, error rate, and raw scores for the combined reading vocabulary and comprehension subtests of the SAT-9. In the analysis of reading fluency, a strong effect was found favoring the intervention group. The analysis of reading comprehension found

no effect for group. Analysis of error rate found no effect for group. The strongest effect identified in these three sets of analysis was on reading fluency. No significant differences were found between intervention and comparison groups on the raw reading score from the SAT-9. No significant differences were found between the intervention and comparison groups on comprehension measures, error rate or the raw reading score of the SAT-9. Students can become more fluent with an important group of core words with increased exposure to texts like those in the intervention. Foorman (2002) states, "The opportunity to read texts where these words are repeated gives students experiences that are not afforded by typical instructional texts, even those intended to introduce children to reading."

Hiebert looked at text for beginning readers and applied what she terms her Critical Word Factor to these text. The Critical Word Factor (CWF) is a function of the number of new and unique words per 100 running words of text that fall outside a designated group of high frequency and phonetically decodable words. The CWF measures text difficulty which can effect the speed, accuracy, and comprehension of beginning readers. The CWF describes the task demands for recognizing words in beginning texts. It assesses two aspects of a text: one is the match of linguistic content in the text with the phonetically regular and high frequency words that are associated with a particular stage of reading development. The other is the demands on cognitive processing as represented by the number of different words that cannot be figured out within a stage of linguistic knowledge. Words that are not easily decodable or highly frequent are identified as critical in determining word recognition. To become a fluent reader of the thousands of words in written English, readers must generalize consistent

relationships between letters and sounds according to Adams (1990), Hiebert (2002), and the National Reading Panel (2000). Hiebert and Fisher (2002) conducted a study with 36 children completing their first trimester of first grade who read four texts in a randomized order. Two texts had high CWF's. These texts had a high portion of unique words beyond the 100 most frequent words and words with relatively complex vowel patterns. The other two had low CWF's. The unique words were limited to the designated curriculum of 100 most-frequent words or words with simple vowels. The texts were books leveled according to the guided reading criteria of Fountas and Pinnell(1999).

There were strong main effects for CWF on reading speed, accuracy, and comprehension. The researchers began timing how long it took the students to read the text. The researchers recorded student's miscues focusing on omissions, substitutions, and insertions. Following the reading of the text the student was asked the question, "Can you tell me what the story was about?" Student's responses were written down verbatim. All the variables were in the direction predicted by the model with the results for speed and accuracy being stronger than those for comprehension, according to Hiebert and Fisher. This study represents an initial step in establishing the usefulness of an index of critical or difficult words in text for beginning readers. The findings on reading speed may be particularly important in the design of texts for beginning readers in regards to fluency.

The research presented indicates that looking at certain text characteristics may help design text that will develop fluency. Text with a combination of decodability and predictable elements seem to be the best for fluency development. Attention to phonetic

and linguistic elements, high frequency words, and critical word factor (Hiebert) should produce text that will improve fluency development.

2.4. Ways to Assess Fluency

The fourth area of research reviewed involves different methods used to assess fluency development. The National Reading Panel (NPR) cites four indicators of reading fluency: Informal Reading Inventories (IRI), Miscue Analysis, Pausing Indices and/or Fluency Scales and Running Records. Improvement in fluency has been assessed for various indicators including rate or words per minute (wpm), accuracy and comprehension. It is now clear that fluency may also include the ability to group words appropriately into meaningful grammatical units for interpretation (Schreiber, 1980, 1987). Fluency requires the rapid use of punctuation and the determination of where to place emphasis or where to pause to make sense of text. Readers must carry out these aspects of interpreting rapidly and usually without conscious effort according to the NPR. This use of phrasing is termed prosody.

2.4.1. Curriculum – Based Measures

Curriculum-Based Measures (CBM) have been used primarily to assess growth in reading, spelling, math, and written expression (Fuchs, 1987). Oral reading fluency is the standard CBM reading measure (Hasbrouck & Tindal, 1992: Hasbrouck, 1999). The student is monitored for the number of words read correctly for 1 minute on an unpracticed passage from an appropriate level text. Curriculum-Based Measures were developed from a broad set of academic procedures known as curriculum-based assessment (CBA). Deno (1987) defined CBA as "any approach that uses direct

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observation and recording of a student's performance in the local school curriculum as a

basis for gathering information to make instructional decisions" (Deno, 1987,p.41). One

of its uses has been to monitor student progress during academic interventions (L.S.

Fuchs, Fuchs, & Hamlett, 1989).

CBM refers to a specific set of CBA procedures originally created through efforts

of the Institute for Research on Learning Disabilities (IRLD) at the University of

Minnesota (Deno, 1985). Researchers worked to develop a standardized, valid and

reliable set of procedures to analyze student's academic growth (Deno, 1985). These

standardized procedures set CBM apart from more basic and early forms of CBA. The

IRLD succeeded and the resulting standardized techniques allow educators to depict

student progress graphically and make reliable and valid data-based educational decisions

regarding placement, intervention, and evaluation.

A CBM involves five basic steps (Fuchs, 1987): (a) identifying a student's long-

range performance goal, (b) creating a pool of test items from the student's curriculum

(or sets of equivalent forms) at the long-range goal level, (c) regularly and frequently

measuring pupil performance (on one, constant task at a time, using production responses

in time-limited format), (d) graphing the data, and (e) analyzing results to make

instructional decisions. CBM often draws from student's daily curriculum. However

research has shown that samples need not to be drawn directly from the curriculum. It is

sufficient for the testing material to mirror the curriculum in difficulty and content.

Research has been conducted to create curriculum-based measurement procedures

that possess reliability and validity to a degree that equals or exceeds that of most

achievement tests (Deno, 1987).

A second distinguishing feature of CBM procedures is that growth is described by an increasing score on a standard, or constant task. The most common application of CBM requires that a student's performance in each curriculum area be measured on a single task repeatedly across time. These two aspects of CBM's certainly are an advantage for their form of assessment.

Fuchs states that research demonstrates that instructional programs designed with CBM can result in greater student growth, and improved student awareness of their own performance. The teacher determines that curriculum level at which the pupil should be proficient within a given amount of time. How well the student currently performs in material at that goal level is determined, and what level of proficiency the pupil will achieve is also determined. This curriculum level constitutes the source of material for the test item pool. If a student is not performing up to this level then a change in the student's curriculum is made so the student meets with success. This success is graphed to demonstrate progress of changes in the curriculum. An aimline is on the graph and this is simply a line connecting the original score and the goal score at the end of a specified period of time. Each week the teacher plots a student's CBM performance score on that student's individual graph. This immediate feedback allows the teacher to manage and adjust instruction.

Research indicates that oral reading fluency is an accurate measure of general reading ability including reading comprehension (Fuchs, Fuchs, and Maxwell, 1988: Hasbrouck & Tindal, 1992; Shinn et al.1992). Oral reading fluency represents a combination of accuracy and rate. CBM measurement is the standard for oral reading fluency.

2.4.2.   Informal Reading Inventory

Another form of fluency assessment is the Informal Reading Inventory. IRI's are

individually administered reading tests composed of a series of graded word lists and

graded passages that the student reads aloud to the examiner. There are two main

purposes for administering an IRI. One is to place students in materials at the appropriate

levels by establishing their independent, instructional, and frustration reading levels. The

other is to identify strengths and weaknesses in the areas of word recognition and

comprehension by analyzing the amount and type of word recognition and

comprehension errors.

Another type of IRI is the Qualitative Reading Inventory (QRI) (19 95). Authors

have addressed criticism related to passage selection, scoring ambiguities, quality of

comprehension items and/or difficulties related to content. In the QRI III passages are

both narrative and expository and are intact text not excerpts. They are representative of

the structure and topics of basal readers and subject area text. The word lists contain

words from the reading selections. An examiner can assess student's use of context by

comparing their word recognition during passage reading to their performance on the

word lists. There is an opportunity to chart a profile of student's strengths and

weaknesses across the reading of various texts. Students are asked questions to assess

their prior knowledge of the content of the text, and after reading the selection students

are asked to retell as many propositions they can remember. Comprehension questions

are of two types: literal and inferential or explicit and implicit respectively.

One part of a QRI is miscue analysis which is an attempt to identify how readers process print by analyzing their oral reading errors. Miscue analysis is associated with Ken and Yetta Goodman and their colleagues (1967). The fundamental assumption underlying miscue analysis is that reading is a "psycholinguistic guessing game", in which readers use their knowledge of language to sample, predict, and confirm the meaning of text. Oral reading provides a means for examining readers' use of the language systems that cue meaning-graphophonic, syntactic, and semantic. Oral reading errors have been named miscues because it is believed that they are not random errors, but rather are mis-cued by one of the language systems the reader uses to process written material. Miscue analysis emphasizes the quality of errors as a reflection of the quality of strategies students are using to process text (Lipson, Wixson, 1997). This type of analysis looks at how a reader works with print and this in turn has an effect on one's comprehension. This will affect the fluency of the reader.

The research on oral reading fluency presented in the review clearly shows us that fluency development affects reading performance. Fluency development increases word recognition, rate, accuracy, and comprehension. Much research has been done in these areas utilizing various techniques to develop fluency. Samuels has shown that with automatic word recognition, reading rate improves. The idea of rapid word recognition stems from Samuels model of reading acquisition. Fluent reading enters into top-down, bottom-up and interactive models of reading acquisition. Research has shown that attention to comprehension doesn't transfer automatically, but that cueing helps with comprehension. One of the most effective methods to develop fluency is the repeated reading of text at the student's independent or instructional level. The NPR (2000) report

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found that fluency is an important part of literacy development. When students read fluently automatic word recognition facilitates comprehension, which is the purpose of reading. Fluency gains can be measured through curriculum based measures that determine rate by words per minute and accuracy of the material read. Fluency scales can be insightful in how a reader is progressing through a text. With the research we know what techniques are most helpful to develop fluency and ways to measure gains in fluency

While various types of text have been utilized in studies conducted on fluency development, little research has been done to determine if any one or a combination of text types facilitates fluency development. Hiebert (2002) conducted research on text used in the NRP's report and found that some features of text seem to facilitate fluency development. Based on this research she found that text that was decodable and contained high frequency words seem to help with fluency development. However more research utilizing different types of text needs to be conducted to determine text effects on fluency development and reading performance. Decodable texts contribution to reading acquisition remains uncertain and controversial due to the lack of research focused on this topic. According to the NPR (2000) decodable texts is one of three important neglected research topics. This study addresses this by examining different texts effects on fluency acquisition.

3.   Methodology

3.1.   Overview of the Method

Fluency development is important as a key predictor of reading success and an important variable in reading success (NRP, 2000). Many aspects of fluency instruction have been studied such as repeated readings and its effect on oral reading fluency, the amount of word overlap between texts, and attentional cueing for oral fluency and comprehension. One issue of fluency development that has not been studied extensively is the type of text that best facilitates oral reading fluency. This issue is the focus of this study.

Three conditions that include repeated reading of decodable text, repeated reading of less decodable text, and no intervention were used to examine the effects on students' accuracy, oral reading fluency, and decoding. Decodable text represented one type of intervention text, while less decodable text represented another type of intervention text. A repeated reading strategy was used to actively engage students in reading the texts. Four different types of repeated reading were employed in the intervention classrooms: echo reading, choral reading, paired reading, and paired "popcorn" style reading. (For definition see chapter 1). An analysis of accuracy, rate and decoding scores were used to determine if any particular type of text facilitated fluency development and reading performance. Students in this study represented varying level of reading ability, so that comparisons could be made between students with varying reading levels under different conditions.

All classrooms were heterogeneous and had students with varying levels of reading ability; each classroom contained Title I reading students. The presentation order

of decodable texts and less decodable texts used in the intervention classrooms was narrative, informational, and narrative in both intervention classrooms. Scripts were developed for presenting a fluency reading lesson and modeling different types of repeated reading (echo, choral, paired and paired "popcorn" reading).

One interest of this study was if the performance of students who experience reading decodable text repeatedly and students reading less decodable text repeatedly differed, from a comparison group that did not read text repeatedly. Quantitative analyses were conducted to investigate the influence of repeated readings of two different texts on fluency development, and if a particular type of text had an effect on oral reading fluency and reading performance. Statistical information gathered from pre and post tests were compared for this analysis.

Another interest of this study is whether students of varying ability performed differently after repeatedly reading two different types of text as compared to students of varying ability in the comparison group. Quantitative analyses were conducted on pre and post tests to ascertain any effects in the reading performance of good, average and struggling readers.

Of equal interest in this study was if there were differences in reading performance of students who experience reading decodable text and student reading less decodable text on pre and post measures of fluency for each of the selections read by the two groups. A quantitative analysis was conducted on pre and post tests for each story read.

3.1.1.   Subjects

Participants in this study were forty seven (47) second graders from a small, middle class, suburban, public school district located outside a large southwest Pennsylvania city. All students in the three classrooms, approximately 60 students, were invited to participate, and all for whom written parental permission was received were included as subjects. Permission was requested and obtained from the district's administration to conduct the study in the primary school. (A copy of the letters requesting permission from the district superintendent and building principal can be found in the Appendix section, along with copies of the parent/guardian permission letter.)   The teachers were requested to consent to conduct the study in their classrooms by signing a letter of explanation.   (A copy of this signature page is included in the Appendix section.)

Students in the three classrooms were assigned heterogeneously in the beginning of the school year by the school district. For this study, the three classrooms were randomly assigned as the no intervention, repeated readings of decodable text and repeated reading of less decodable text classrooms.

3.1.2.   Student Data

Teacher recommendation was used to identify the ability groups within classrooms. Teachers based their recommendations on overall classroom reading performance and running records administered monthly.

Student Data					
Intervention	Male	Female	Ability	Number/Total	Percent
Class A					
Decodable Text	3	2	Good readers	5	33.0
	2	4	Average readers	6	40.0
	2	2	Poor readers	4	27.0
			Total	15	
Class B					
Less Decodable	3	3	Good readers	6	37.5
Text	2	2	Average readers	4	25.0
	4	2	Poor readers	6	37.5
			Total	16	
Class C					
Comparison	3	3	Good readers	6	37.5
	1	5	Average readers	6	37.5
	3	1	Poor readers	4	25.0
			Total	16	

Figure 1 Student Data For Ability and Intervention

3.2. Instrumentation

3.2.1. Pre-test/Post test Measures

The same instruments were used as pre and post tests to determine growth on the following measures: accuracy and rate, words in isolation, and decoding skills.

Dynamic Indicators of Basic Early Literacy Skills TM 6th Edition (DIBELS) (Good, Kaminski, 2002). DIBELS Oral Reading Fluency (DORF) Benchmark 2 and Benchmark 3 respectively. This test was administered to all three groups to determine a baseline oral reading fluency rate. All three passages were read and an average was calculated to determine a score for fluency rate. Each student read each passage for one

minute, and an oral reading rate obtained.   The oral reading rates of 3 passages were averaged to obtain an overall oral reading rate.

Benchmark 2 was administered as a pre test to obtain a fluency measure, rate and accuracy.   Benchmark 3 was administered as a post test to obtain a fluency measure, rate and accuracy. On both the pre and post test students read three passages, two passages were narrative and one was informational.   The test-retest reliabilities for elementary students ranged from .92 to .97; alternate-form reliability of different reading passages drawn form the same level ranged for .89 to .94. Criterion-related validity studied in eight separate studies in the 1980s reported coefficients ranging form .52 to .91(Good& Jefferson, 1998).

Dynamic Indicators of Basic Early Literacy Skills TM 6th Edition (DIBELS) (Good, Kaminski, 2002). DIBELS Nonsense Word Fluency (NWF). This test was administered to all three groups to test their knowledge of the alphabetic principle. The students were presented an 8.5 x 11 inch sheet of paper with randomly ordered VC and CVC nonsense words (e.g. sig, rav, ov,) and asked to verbally read the entire nonsense word. Each sound was assigned a point value of one for a total of 142 points. The students are asked to produce as many nonsense words as they can in 1 minute. The current criterion-validity of DIBELS NWF with the Woodcock-Johnson Psycholo-Educational Battery Revised Readiness Cluster is .66 in May (Good et al, in press).

3.2.2.   Procedures for DIBELS Testing

Each subject was tested individually on pretest and posttest measures. The assessments were conducted over three separate sessions during the school day and across the week.

The students were pulled from their regular school activities to a quiet room.   Subjects were tested by the researcher and a two trained reading teachers. Examiners introduced themselves to the students and told them that they were chosen to help in a project about fluency and reading stories many times.   The testing phase lasted one week each for both pre and post assessments.

3.2.3.   Pre- Post Assessments Measures for Stories

Students were asked to do a cold reading before each decodable and less decodable intervention text was introduced and repeatedly read four times.   Students read the text for one minute to obtain a rate and accuracy score.   After repeatedly reading each text four times (the intervention text), students again read each text for one minute. These scores for each story served as a pre and post measures of oral reading fluency (rate, and accuracy) for each of the stories read.   Each subject was tested individually on pre and post measures. Students were pulled from their regular school activities to a quiet room. Except for the first and last weeks of the intervention, students read the new text (a cold reading) and the practiced decodable or less decodable texts for one minute each. Subjects read to the researcher or a trained reading specialist.

3.2.4.   Examiner Training

Three examiners assessed students on the pre and post DIBELS assessments and two examiners assessed the pre and post measures for stories. The researcher was examiner 1, examiner 2 assisted on the DIBELS measures and examiner 3 assisted on the DIBELS

measures and the pre and post measures for stories. Prior to assessing subjects, each examiner was presented with the DIBELS assessments and instructed on how to administer both the DIBELS NWF and the DIBELS DORF Benchmark 2 measures. Examiner 1 instructed each of the other examiners individually. For the DIBELS NWF each examiner was instructed to listen to the subjects pronounce as many words as possible in one minute. For each sound that was either not pronounced or pronounced incorrectly, the examiner was to put a slash mark through the corresponding letter that represented that sound. The examiners were to write what the subjects said in place of the sounds above the corresponding letter(s).

For Benchmark 2, examiners 2 and 3 were instructed to read all three selections before administering them to the students.   Each examiner was instructed to listen to students read each selection for one minute. To code the selection the examiners were instructed to put a slash mark through each mispronounced or non pronounced word. If a student skipped an entire line each word was considered an error. At the end of the minute a slash mark was placed after the last word read. Each correct response was counted as one point. The number of correct words for each passage was added together and an average was taken for an oral reading fluency measure of rate and accuracy.

To establish inter-rater reliability examiner 1 and examiner 2 coded the same student on both the NWF and DORF. The same procedure was used with examiners 1 and 3, except with a different student. No additional instructions were given for post NWF or DORF because the same procedures were used.

Three examiners were involved in the pre and post assessment measures for DIBELS Nonsense Word Fluency, DIBELS Benchmark 2 and 3, and pre and post

measures for stories. Examiner 1 (investigator) and Examiner 2 coded the same student

pronouncing nonsense words on the DIBELS Nonsense Word Fluency. The inter-rater

reliability between Examiner 1 and Examiner 2 was 87.5 percent. Examiner 1 and

Examiner 3 coded the same student pronouncing nonsense words on the DIBLES

Nonsense Word Fluency. The inter-rater reliability between Examiner 1 and Examiner 3

was 94.4 percent, indicating a high rate of agreement between examiners.

3.3.   Comparison of Groups Before Intervention

A one way analysis (ANOVA) between and within the three groups on nonsense word

fluency (NWF) and Benchmark 2 (DORF) was conducted. Table 1 represents the mean

percentages and standard deviation for between and within groups for Pre DIBELS

Nonsense Word Fluency and Pre DIBELS Oral Reading Fluency.

Table 1 Mean Percentages and Standard Deviations for Pre Nonsense Word Fluency and Pre Benchmark 2

Source	Group	Mean	SD
NWF Pre	Decodable(15)	75.86	34.77
	Less Decodable(16)	76.12	30.41
	Comparison(16)	85.31	37.23
DORF Pre	Decodable(15)	112.93	38.17
	Less Decodable(16)	100.56	29.52
	Comparison(16)	98.50	26.27

Table 2 represents the ANOVA for the comparison of the decodable, less decodable and comparison groups on the Nonsense Word Fluency and Benchmark pre test measures. The F ratio for the comparison on the Nonsense Word Fluency measure between groups was not significant at the .05 level. Also the F ratio for the comparison on the Oral Reading Fluency Benchmark 2 measure was not significant at the .05 level. These results indicate that the three groups were similar in reading performance before any intervention was conducted in two of the three classrooms. Since all three groups were similar, any significance that occurred in the intervention groups would mean a change in performance due to the interventions of either text, repeated readings, ability or a combination of these factors.

Table 2 ANOVA Summary Table for Group Comparison for Nonsense Word Fluency (NWF) and Benchmark Oral Reading Fluency (DORF) Before Intervention

Source	SS	df	MS	F	p
NWF Pre Between Groups	915.71	2	457.85	.390	.679
Within Groups	51610.92	44	1172.97		
DORF Pre Between Groups	1868.40	2	934.20	.938	.399
Within Groups	43832.87	44	996.20		

$p < .05$

3.4. Materials Used for Intervention

The two interventions used two different types of text, decodable or less decodable. Each classroom used one of the two text types and repeatedly read each text four times over a four day period. They were introduced to a new book each week for a period of 3 weeks. The control group used leveled text (Fountas and Pinnel, 1999) as this is part of their regular classroom curriculum. They read the text only once as prescribed. A

description of the text materials for each intervention follows. The selected text was on the students' independent or instructional level based on Running

Records administered by the classroom teacher throughout the school year.

3.4.1. Decodable Text

Students read decodable text at their independent or instructional level. In this study decodable text is defined as texts that contain pretaught phonic elements and high frequency words. These texts were both informational and narrative in nature. The decodable texts came from Ready Readers developed by Rosann Englebretson, Elfrieda H, Hiebert, and Connie Juel (Pearson Publishing). They are appropriate for different stages of reading development from Early Emergent to Fluent (Stages 4 & 5). The texts selected for this study were from the last two stages and considered to be books that develop fluency. A total of three different texts were used in this intervention. A different text was read each week, so that when the study was completed the students had read each of the texts. Texts were provided by the researcher

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3.4.2. Less Decodable Text

Students read less decodable text at their independent and instructional levels. In this study less decodable text is defined as text that uses fewer decodable words, where illustrations provide picture clues, and sentence structures are repeated to teach new words. These texts were both informational and narrative in nature. The less decodable texts were published by the Wright Group and were appropriate for different stages of

reading development (Early Emergent to Fluency). The texts selected for this study came

from the early fluency stage of the Story Box and Sunshine Books Collections and were

considered to be books that develop fluency. A total of three different texts were used in

this intervention. A different text was read each week, so that when the study was

completed the students had read each of the texts. Texts were provided by the researcher.

3.4.3.   Analysis of Decodability

The three decodable and three less decodable texts were analyzed for comparison of

decodability. The developed criteria for decodability were based on Hiebert's analysis of

text for the percentages of high frequency words, decodable words, critical words and

singletons.   High frequency words were based on Fry's list of words.

Table 3 Analysis of Decodability

	Percentages				
	Total Words	High Freq. Words	Decodable Words	Critical Words	Singletons
Ready Readers					
Story 1	213	70%	28%	0%	2%
Story2	241	67%	29%	4%	0%
Story 3	250	76%	15%	9%	0%
Wright Group					
Story1	296	70%	18%	11%	1%
Story 2	176	48%	26%	24%	2%
Story 3	257	64%	25%	4%	7%

Two of the three decodable texts had more high frequency words: Story 1 in Ready Readers and in Wright Group contained the same number of high frequency words. There were more decodable words in the Ready Readers (Story 1 and 2). Stories 2 and 3 in the Wright Group (less decodable text) contained similar percentages of decodable words, but the percentages are higher for the decodable texts. There was a lower percentage of critical words in the decodable text. Neither type of text contained many singletons, fewer than 2%, except for Story 3 in less decodable which contained 7%. The biggest difference between the two texts was in the presentation of phonetic elements. The more decodable texts developed phonetic element short and long /e/, long /o/ made by the oa vowel digraph, and inflected endings –ed and –ing respectively, whereas the less decodable texts developed no common phonetic elements. Many words followed the C-V-V-C pattern or were multisyllabic with open and closed syllables. The critical words and singletons were irregular and contained more "r" controlled words. Complete word lists for each story can be found in Appendix J.

3.4.4.   Leveled Text

Students in the control group read leveled text at their instructional level. These texts were supplied by school district and are presently used for Guided Reading instruction as part of the regular curriculum. Texts were both informational and narrative. A total of four different texts per week were used and chosen by the regular classroom teacher. Each group read a different text each week as part of the curriculum.

3.5.   Interventions and Assignment Procedures

3.5.1.   Interventions

The three interventions in this study were identified as follows. Students who read

decodable text repeatedly belonged to the (**DR**), or decodable rereading group, while

students who read less decodable text repeatedly belonged to the (**LDR**), or less

decodable rereading group. Students who received no intervention, but had regular

classroom instruction belonged to the (**RC**), or regular classroom group.

3.5.2.   Procedures

The investigator worked with each of the two classroom teachers throughout the study.

Both the investigator and classroom teacher had various responsibilities throughout this

study. See appendix H for description of procedures.

3.5.3.   Investigator and Teacher Responsibilities

The purpose of the initial meeting was to introduce the investigator and the examiners to

the students in all three classrooms. Students were told that they would be either reading

different texts numerous ways to help them improve their reading or reading leveled text

with their teacher (part of the regular classroom curriculum).   Students were instructed

that they would be going to a different room, one at a time, for a few minutes to

pronounce some words and to read some stories to the investigator or one of the other

examiners.   The investigator and examiners assessed students from one of the three

classrooms, each day during Week 1 until all participants completed the DIBELS NWF and DORF.

On day 5 the investigator presented a Read Aloud of a selected story as a model of successful fluent reading in the two intervention classrooms.(See Appendix A) Students were asked what good readers do, which led to a discussion of fluent oral reading. Key points of the discussion were that good readers tell what words they know and how quickly they recognize them, the importance of punctuation and grouping words into phrases, and how your voice reveals the characters' feeling to the listeners. Students were cued to listen and think about what the investigator did during oral reading that made it fluent (rate, accuracy, phrasing, voice, punctuation) or disfluent. A script for presenting the read aloud and cueing is in the appendix. After the initial reading of the story, different portions of the text were reread to demonstrate fluent and disfluent rate, expression (using your voice), phrasing or lack of it, and the importance of punctuation. A discussion of what the investigator did during this reading of sections of the text that made the reading fluent or dysfluent was held at the end of the reading. This led to a definition of fluent reading. Fluent was defined as follows: not too fast or too slow (rate), knowing the words (accuracy), using your voice to tell what is happening and using punctuation to help tell the story (prosody). This definition was repeated at intervals during the study as a reminder to students and also was displayed on a poster in each intervention classroom. (See Appendix G)

Students were told that they would be taken to a quiet room and asked to read the story for next week's fluency practice. This pre test was scored like the DIBELS DORF and students read for one minute to either the investigator or the examiner.

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3.5.4.   Modeling of Different Types of Repeated Reading

During Week 2 students were introduced to the terms: echo reading, choral reading, paired reading, paired reading "popcorn" style, and coaching strategies. (See appendices B, C, D, E, and F) for techniques of rereading. Coaching strategies (Bulazo, 1999) to use when reading with a partner were introduced to the students. Each classroom received a poster with coaching strategies (See Appendix F) and a definition of fluent reading to display for the students.   The fluency intervention took place during a daily two hour language arts block and took 20-30 minutes of this block of time.

On Day 1, the investigator defined and model echo reading with the classroom teacher (See Appendix B) to both intervention classrooms. Students were asked what an echo is. The investigator and classroom teacher modeled an echo by repeating *Hello, Hello; How are you?, How are you?.* The investigator and teacher read the first intervention text sentence by sentence with the teacher echoing what the investigator reads as an example of echo reading. When they finished reading, the investigator asked the students to echo read the last page of the story. Students echo read the story in groups comprised of 5 or 6 students with at least one good reader in each group. The investigator and classroom teacher arranged students into groups. The investigator and classroom teachers monitored echo reading by walking throughout the classroom and listening to students reading.

On Day 2, in both intervention classrooms, the investigator reviewed echo reading and the definition of a fluent reader. The investigator defined choral reading as an activity in which everyone reads the same story and says the same word at the same time. Students were asked to think about singing a song and saying the words together as an

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example of choral reading. The investigator passed out copies of a scripted poem for choral reading (See Appendix C). The investigator, teacher and students read this poem two times as a model of choral reading. Students read the intervention texts chorally in groups of 5 or 6 with as least one good reader in each group. The groups were arranged by the investigator and classroom teachers. The investigator and classroom teachers monitored choral reading by walking throughout the classroom and listening to students reading.

On Day 3, the investigator reviewed echo and choral reading and the definition of fluent reading. The investigator defined paired reading and coaching strategies and modeled these with the classroom teachers. The investigator told students that when you read with a partner you listen to each other read the story and help your partner with words he/she does not know. The investigator told students they were to sit next to each other and read the story. One person should read the story all the way through and the other person would coach if help with a word was needed. Then the other partner would read the story while the first reader became the coach.

The investigator told students that reading coaches help their partner when they come to a word they don't know. The idea of being a coach was compared to being a sports coach. The coach does not go in and play for the team but rather advises the team on how to play (Bulazo, 1999). "A reading coach does not tell a reader words, but rather advises the reader on how to figure them out"(Bulazo, 1999 p. 59). Steps included the following: (a)help the partner read through the word (think how the initial letter (s) sound, the middle letter(s) sound, and the ending letter(s) sound.; (b) reread the sentence; (c) read on and have the reader decide if the word makes sense and if the word sounds

right (Bulazo, 1999). A poster with these coaching strategies was displayed in the

intervention classrooms as a reminder of how to assist a partner. (See Appendix F) Each

prompt was modeled separately and discussed. Students were paired with a partner and

practiced reading fluently and coaching strategies, using their intervention text. Partners

were paired by the classroom and investigator according to their present fluency level:

high- middle; middle-low. The classroom teacher and investigator monitored and

scaffolded coaching by walking throughout the classroom and listening to students

reading.

On Day 4, the investigator reviewed echo reading, choral reading, paired reading

and coaching strategies. The definition of fluent reading was reviewed. The investigator

defined paired "popcorn" reading and modeled this with the classroom teachers.

Students were told that if a whole class is "popcorn" reading the teacher calls on students

to read by skipping around the room. Any students can be called on to read at any time,

for example, at the end of the page, in the middle of a page.   The students practiced

"popcorn" reading by reading two pages of their present anthology story under the

guidance of the investigator and the classroom teachers.

For paired "popcorn" reading each student read the same text as his/her partner.

The student who was reading could stop reading at any time, at the end of a sentence, at

the end of a phrase, in the middle of a line, or at the end of a page. Where ever the

student stopped the partner began reading and read until he/she chose to stop and then the

first reader began reading again.   Partner reading "popcorn" style (See Appendix E) was

modeled by the investigator and classroom teacher. Students were paired by the

investigator and classroom teachers. Students were paired according to their present

fluency level: high-middle and middle-low to reread their intervention text "popcorn" style. The investigator and teacher monitored and scaffolded coaching by walking throughout the classroom and listening to students reading.

On day 5, students in the interventions classroom were post tested on the story being practiced that week. Students were taken to a quiet room to read this text. Students read the intervention text for 1 minute to either the investigator or another examiner. Then the student was pre tested on the story to be read the following week. Students read this text for 1 minute to one of the examiners.

The procedures for Weeks 3 and 4 were the same except for the intervention text read. At the end of Week 3, students were tested on the text being read that week, and then pretested on the text for Week 4. At the end of Week 4, students were tested on the text being read that week.

During Week 5 students from the two intervention classrooms and students for the comparison classroom were post tested on the DIBELS NWF and DIBELS DORF. The investigator made a classroom visit to all three classrooms on Day 5 of Week 5 to thank students and teachers for all their hard work over the last three weeks.

3.5.5. Student Interviews

The investigator conducted student interviews on Day 5 with a total of twelve students, six students from each intervention classroom. These interviews were conducted with two good, two average, and two poor readers who read decodable and less decodable text. The students were each asked four questions about fluency and what they've

learned about fluency, activities used in the study to develop fluency that were helpful or

not helpful, and whether students viewed themselves as fluent readers and why.

3.6.   Analysis of Data

A three-way analyses of variance (ANOVA) was done to determine the effects of the

treatment.

Table 4 Three way Analysis of Treatment

Treatment X	Reading Ability X	Time
Comparison	Good Readers	Pretest
Decodable Text	Average Readers	Posttest
Less Decodable Text	Poor Readers	

The effects that were tested in this analysis are:
Main effect of treatment
Main effect of reading ability
Treatment by reading ability interaction
Main effect of time
Treatment of time interaction
Ability by time interaction
Treatment by ability by time interaction

The treatment by time interaction (5) tested whether the change from the pre and post

tests differed across the three types of treatment. The treatment by ability by time

interaction tested whether the effect of treatment differed across the levels of ability. For

example, the type of treatment may matter more for poor readers than for good readers.

4.   Analysis of Data

The purpose of this study was to investigate if a particular type of text best facilitates aspects of reading performance such as rate and accuracy. The main question was whether there would be a significant difference between the performance of students who experience reading decodable text repeatedly and students reading less decodable text repeatedly. Also of interest was whether there would be a significant difference in the reading performance of good, average, and poor readers who read decodable text repeatedly, student who read less decodable text repeatedly, and students in the comparison group

Data were collected over a period of five weeks before, during and after the study interventions. Pre / Post tests were administered to all three groups: students reading decodable text, students reading less decodable text and the comparison group. In addition measures of fluency were administered to the decodable text and less decodable text groups before and after they read each selection repeatedly. These data were examined in order to answer the following research questions.

Are there significant differences on pre and post measures of decoding and fluency between the performance of students in the intervention groups and the comparison group?

Are there differences in reading performance of students who experience reading decodable text and students reading less decodable text, on pre and post measures of fluency for each of the selections read by the two groups?

The first research question is answered by quantitative analysis of Pre and Post

test scores of the Dynamic Indicators of Basic Early Literacy Skills (DIBELS), Nonsense

Word Fluency (NWF), and Oral Reading Fluency (DORF) Benchmark 2 and Benchmark

3 respectively. In addition the second question was answered by quantitative analysis of

pre and post assessments of average words per minute (wmp) of the three decodable and

three less decodable stories read by the intervention groups.

Table 5 Research Questions and Measures

	DIBELS Nonsense Word Fluency (NWF)	DIBELS Benchmark 2 and 3 (DORF)	Fluency Measures Pre and Post Story 1	Fluency Measures Pre and Post Story 2	Fluency Measures Pre and Post Story 3
Question 1	X	X			
Question 2			X	X	X

4.1.   Research question 1:

Are there significant differences on pre and post measures of decoding and fluency

between the performance of students in the intervention groups and the comparison

group?

A three way analysis (ANOVA) was conducted on the data collected on the pre

and post Nonsense Word Fluency (NWF) and Oral Reading Fluency Benchmark 2 and 3

(DORF). The data were analyzed by intervention (group) X reading ability X time. The

treatment by time interaction tests whether the change from pre to post differs across the

three types of treatments. The treatments were decodable text, less decodable text and

comparison (regular classroom instruction).   Table 7 represents the mean percentages

and standard deviation for Pre and Post Nonsense Word Fluency and Oral Reading

Fluency.

These data represent the mean scores and standard deviations for pre and post

Nonsense Word Fluency (NWF) and Oral Reading Fluency (ORF). The mean scores for

pre-post NWF indicate that good readers increased by 30 percent, while the average

readers increased by 18 percent and the poor readers increased by 8 percent.

Comparing the means for DORF indicates that there were no increases in any

ability group and a closer examination shows that in some groups there were negative

gains.

Table 6 Pretest and Posttest Means and Standard Deviations on Nonsense Word Fluency and Oral Reading Fluency by Group and Reading Ability

	NONSENSE WORD FLUENCY				ORAL READING FLUENCY			
	PRE	PRE	POST	POST	PRE	PRE	POST	POST
	M	SD	M	SD	M	SD	M	SD
DECODABLE								
Good	90.2	30.8	128.4	14.2	147.4	11.6	148.4	19.1
Average	87.5	32.6	109.8	27.9	120.3	18.5	118.1	14.4
Poor	40.5	17.8	40.5	8.0	58.8	6.8	60.2	9.7
Total	75.8	34.7	97.5	41.0	112.9	38.1	112.8	38.1
LESS								
DECODABLE								
Good	90.1	37.1	128.1	14.8	130.5	18.2	133.7	20.6
Average	77.2	24.0	106.2	22.8	100.0	12.8	97.0	12.3
Poor	61.3	23.4	72.0	27.6	71.0	7.3	68.5	8.5
Total	76.1	30.4	101.6	32.7	100.5	29.5	100.0	32.3
COMPARISON								
Good	92.5	31.2	107.3	25.0	117.0	8.3	113.1	10.9
Average	107.3	23.7	110.1	25.2	103.3	21.9	100.5	27.9
Poor	41.5	27.0	57.0	31.0	63.5	13.1	67.5	13.1
Total	85.3	37.2	95.8	33.9	98.5	26.2	97.0	26.0

Table 7 Results of Three-way (Group by Reading Ability by Time) ANOVA on Nonsense Word Fluency

Source	SS	df	MS	F	p
Group	609.40	2	309.70	0.26	.769
Ability	50,053.11	2	25,026.557	21.77	.000*
Group X Ability	4,918.61	4	1,229.65	1.07	.385
Error	43,682.77	38	1,149.55		
Time	8,233.61	1	8,233.61	37.78	.000*
Time X Group	863.09	2	431.55	1.98	.152
Time X Ability	1,789.92	2	894.96	4.11	.024*
Time X Group X Ability	1,171.89	4	292.97	1.34	.271
Error	8,282.07	38	217.95		

* $p < .05$

Table 7 presents the ANOVA analysis for Pre and Post Nonsense Word Fluency. The effects that are significant are: Ability $(F_{(2.38)}=21.77, p<.0005)$, Time $(F_{(1.38)}=37.78, p<.0005)$, and Time X Ability $(F_{(2.38)}=4.11, p=.024)$. Students as a whole (the three groups combined) made significant gains from pre to post. The post hocs that were done to follow the significant time X ability interaction showed that good readers made greater gains than poor readers from pre to post on Nonsense Word Fluency. However since there was no significance for group, the improvement in nonsense word pronunciation cannot be attributed to any one type of text nor to the repeated reading intervention.

Table 8 Results of Three-way (Group by Reading Ability by Time) ANOVA on Oral Reading Fluency

Source	SS	df	MS	F	p
Group	3278.52	2	1639.26	3.62	.036*
Ability	67300.32	2	33650.16	74.48	.000*
Group X Ability	4722.71	4	1180.67	2.61	.050*
Error	17169.15	38	451.79		
Time	6.10	1	6.10	.137	.713
Time X Group	4.46	2	2.23	.050	.951
Time X Ability	54.46	2	27.23	.612	.548
Time X Group X Ability	123.25	4	30.81	.692	.602
Error	1691.91	38	44.52		

* $p < .05$

Table 8 presents the ANOVA analysis for Pre and Post Oral Reading Fluency. The effects that are significant are: Group ($F_{(2.38)} = 3.62$, $p = .036$), Ability ($F_{(2.38)} = 74.48$, $p < .005$), and Group X Ability ($F_{(4.38)} = 2.61 = .050$). The F ratio was not significant for time, time by group, time by ability, or time by group by ability. The ANOVA indicates that there was no significant change from pre to post reading on these passages which seems to indicate no transfer to new and unfamiliar material. Students did not increase significantly in their rate or accuracy on these passages. These results also indicate no effect of repeated reading of text to new and unfamiliar material.

4.2.   Research question 2:

Are there differences in reading performance of students who experience reading decodable text and students reading less decodable text, on pre and post measures of fluency for each of the selections read by the two groups?

A three way analysis (ANOVA) was conducted to determine if one type of text was more beneficial to reading performance or if one type of text was more beneficial for a particular

ability group. This analysis was conducted over the three decodable and three less decodable

stories with pre and post words per minute data collected.   The pre-post differences were

obtained by averaging the words per minute read correctly across the three decodable stories and

the three less decodable stories. The data in Table 9 represent the mean percentage of words

read correctly in one minute (for three stories).

Table 9 Pre and Post Test Means and Standard Deviations for Averaged Words Per Minute Read Correctly of Three Decodable Text and Three Less Decodable Text by Group and Reading Ability

		Reading Ability						
		Good		Average		Poor		
Group	Time	M	SD	M	SD	M	SD
Decodable	Pre	127.8	11.0	105.6	23.5	57.4	7.7
	Post	169.3	20.0	146.6	22.7	116.2	14.2
Less Decodable	Pre	117.2	14.6	86.5	9.8	68.6	11.3
	Post	165.5	13.3	142.0	11.1	110.4	13.0

A comparison of the pre-post averaged means indicates that all ability groups improved

in their ability to read more words correctly across the three decodable and three less decodable

texts. The largest difference in means occurred for poor readers reading decodable text over the

course of the study.

Table 10 Results of Three-way (Group by Reading Ability by Time) ANOVA for Within Subject Effects for Stories (Decodable and Less Decodable)

Source	SS	df	MS	F	p
Time	34301.81	1	34301.81	465.36	.000*
Time X Group	7.70	1	7.70	.105	.749
Time X Ability	75.64	2	37.82	.513	.605
Time X Group X Ability	655.90	2	327.95	4.440	.022*
Error	1842.74	25	73.71		

* $p < .05$

Results of the ANOVA indicate that the F ratio was significant for time and for time by group by ability. The significant main effect for time indicates that students as a whole (regardless of group or ability level) made significant gains from pre to post. Students' correct words per minute increased for each story and each ability level. The significant three-way interaction indicates the effect of type of text (decodable or less decodable) across ability groups. The post hoc comparison indicates that the effect of treatment (decodable vs. less decodable text) on pre-post gains was not significant for good and average readers, but was significant for poor readers across all stories, with those reading decodable text doing significantly better than those in the less decodable group.

As stated previously, a pre reading and post reading score of words read correctly per minute was obtained for each story. Students did a cold reading of each selection for one minute as a pre measure and a post reading for one minute. Table 11 represents the mean percentages and standard deviations for Stories 1,2, and 3 for decodable and less decodable text.

Table 11 Pre and Post Means and Standard Deviations for Stories 1,2 and 3 Decodable and Less Decodable Texts

			Story 1		Story 2		Story 3	
Group	Reading Ability	Time	M	SD	M	SD	M	SD
Decodable	Good Reader	Pre	126.4	18.8	126.0	5.3	131.0	16.0
		Post	155.2	23.4	163.6	19.6	189.2	23.3
	Average Reader	Pre	106.1	29.2	104.1	23.1	106.6	26.3
		Post	136.3	33.5	147.1	20.4	156.3	29.9
	Poor Reader	Pre	53.0	8.4	63.5	5.7	55.7	15.4
		Post	125.0	26.5	107.0	30.8	116.7	25.7
Less Decodable	Good Reader	Pre	120.5	22.2	123.3	28.0	107.8	19.9
		Post	159.5	16.1	168.0	7.2	169.1	27.8
	Average Reader	Pre	93.2	9.3	72.7	25.4	93.5	27.3
		Post	133.0	14.4	141.5	12.4	151.5	9.4
	Poor Reader	Pre	84.6	33.3	70.6	11.0	50.6	8.2
		Post	101.8	11.0	112.8	14.8	116.6	16.3

Further examination of Table 11 shows that good, average, and poor readers all improved their rate and accuracy for both decodable and less decodable text. The mean words per minute for poor readers reading decodable text increased from 53 words correct per minute to 125 words correct per minute for Story 1. The mean words per minute for poor readers reading less decodable text increased from 84.6 words correct per minute to 101.8 words correct per minute for Story 1.   This is a 72 words correct per minute increase for poor readers reading decodable text as compared to a 17 words correct per minute increase for poor readers reading less decodable text.

A three way ANOVA analysis was conducted for each decodable and less decodable text to determine if any one story or type of text was more beneficial for a particular ability group. Tables 12, 13 and 14 represent the ANOVA analysis for pre and post words per minute (wpm) for Stories 1,2, and 3 respectively.

Table 12 Results of Three-way (Group by Reading Ability by Time) ANOVA for Story 1 Pre and Post Words Correct Per Minute

Source	SS	df	MS	F	p
Group	36.42	1	36.42	.047	.830
Ability	24797.14	2	12398.57	16.06	.000*
Group X Ability	372.03	2	186.01	.241	.788
Error	19291.47	25	771.65		
Time	21448.35	1	21448.35	72.47	.000*
Time by Group	511.87	1	511.87	1.73	.200
Time by Ability	342.22	2	171.11	.578	.568
Time by Group by Ability	3426.64	2	1713.32	5.78	.009*
Error	7398.60	25	295.94		

* $p < .05$

The significant effects are: Ability (F(2.25)=16.06,p<.0005), Time

(F(1.25)=72.47,p<.0005) and Time by Group by Ability (f(2.25)=5,78,p =.009). The F ratio was

significant for Time by Group by Ability. The ANOVA indicates that text type was beneficial

for a specific ability group. For Story 1 Decodable text was beneficial for poor readers. The

poor readers read more words correctly per minute from pre to post on this narrative text.

Table 13 Results of Three-way (Group by Reading Ability by Time) ANOVA for Story 2 Pre and Post Words Correct Per Minute

Source	SS	df	MS	F	p
Group	208.13	1	208.13	.452	.508
Ability	32939.60	2	16469.80	35.73	.000*
Group X Ability	1670.00	2	835.00	1.81	.184
Error	11523.55	2	406.94		
Time	32592.82	1	32592.82	132.11	.000*
Time X Group	413.00	1	413.00	1.67	.208
Time X Ability	643.27	2	321.63	1.30	.289
Time X Group X Ability	463.09	2	231.54	.939	.405
Error	6167.55	25	246.70		

* p < .05

The significant effects are: Ability and Time, however there is no significance for Time

by Group by Ability.   Over time, students reading decodable and less decodable text increased

in their wpm, but there were no significant gains for either text. Good, average, and poor readers

all improved and one group did not show more growth than another on this informational text.

Table 14 Results of Three-way (Group by Reading Ability by Time) ANOVA for Story 3 Pre and Post Words Correct Per Minute

Source	SS	df	MS	F	p
Group	1835.22	1	1835.22	2.34	.138
Ability	43078.55	2	21539.27	27.56	.000*
Group X Ability	968.04	2	484.02	.619	.546
Error	19536.56	2	781.46		
Time	52274.01	1	52274.01	299.13	.000*
Time X Group	112.98	1	112.98	.647	.429
Time X Ability	228.47	2	114.23	.654	.529
Time X Group X Ability	17.52	2	8.76	.050	.951
Error	4368.73	25	174.74		

* $p < .05$

The significant effects are: Ability and Time, however, there is no significance for Time by Group by Ability. This indicates that all readers regardless of ability or text type read improved in combined measures of rate and accuracy over the course of the study on this narrative text.

4.3.   Student Survey

Students were surveyed at the conclusion of the intervention to determine what they learned about fluency, if any activity helped in their fluency development, if any activity was not helpful, and lastly if the students thought they were fluent readers. The results to the surveys are presented in the following charts.

What did you learn in the last five weeks?

QUESTION 1
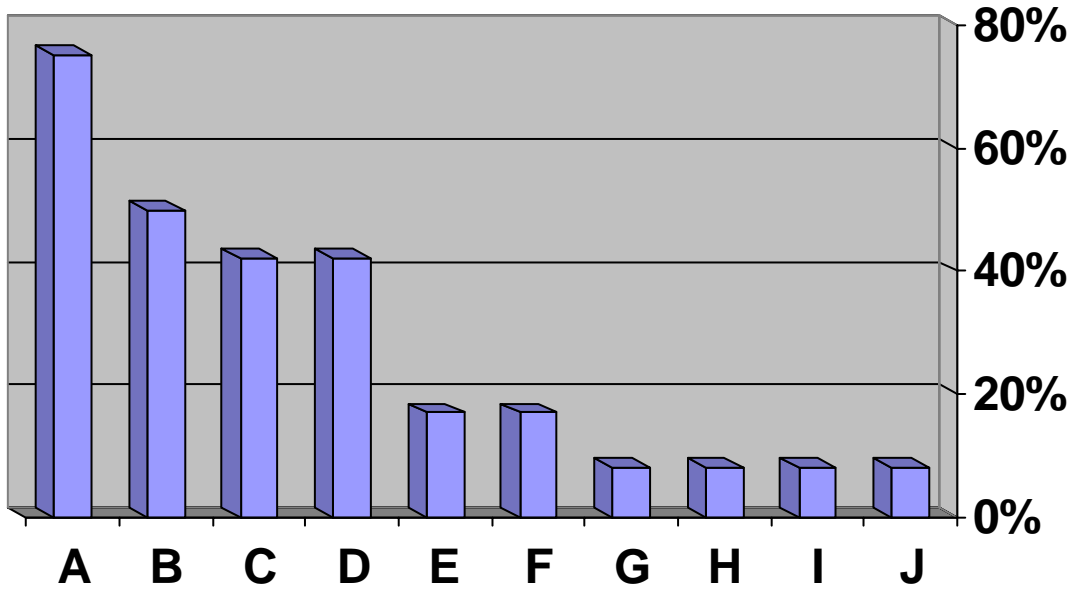
A. To read not too fast and not too slow	9/12	75%
B. How to read fluently	6/12	50%
C. How to read with expression	5/12	42%
D. Read so people can understand your words	5/12	42%
E. How to choral read	2/12	17%
F. How to popcorn read	2/12	17%
G. How to echo read	1/12	8%
H. How to partner read	1/12	8%
I. About coaching a partner	1/12	8%
J. Rereading helps with words	1/12	8%

Figure 2 Student Survey Results for Question 1

What activity helped you to become a fluent reader?

QUESTION 2

	A	B	C	D	E	F	G	H
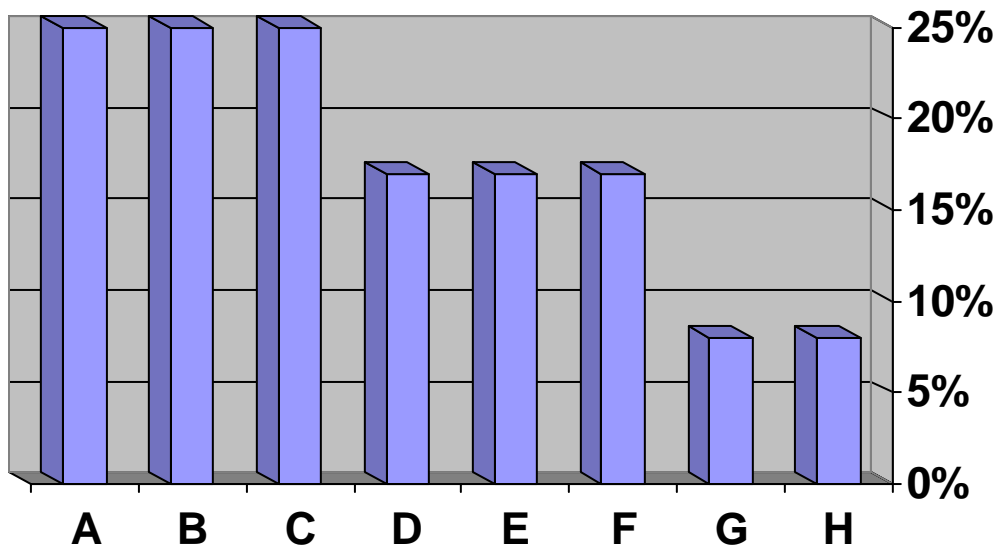
A. Choral reading	3/12	25%
B. Popcorn reading	3/12	25%
C. Reading coaches	3/12	25%
D. Fluent reading being modeled	2/12	17%
E. The way the texts were written (decodable text only)	2/12	17%
F. Partners	2/12	17%
G. Modeling of reading with expression	1/12	8%
H. Echo reading	1/12	8%

Figure 3 Student Survey Results for Question 2

What was not very helpful?

QUESTION 3
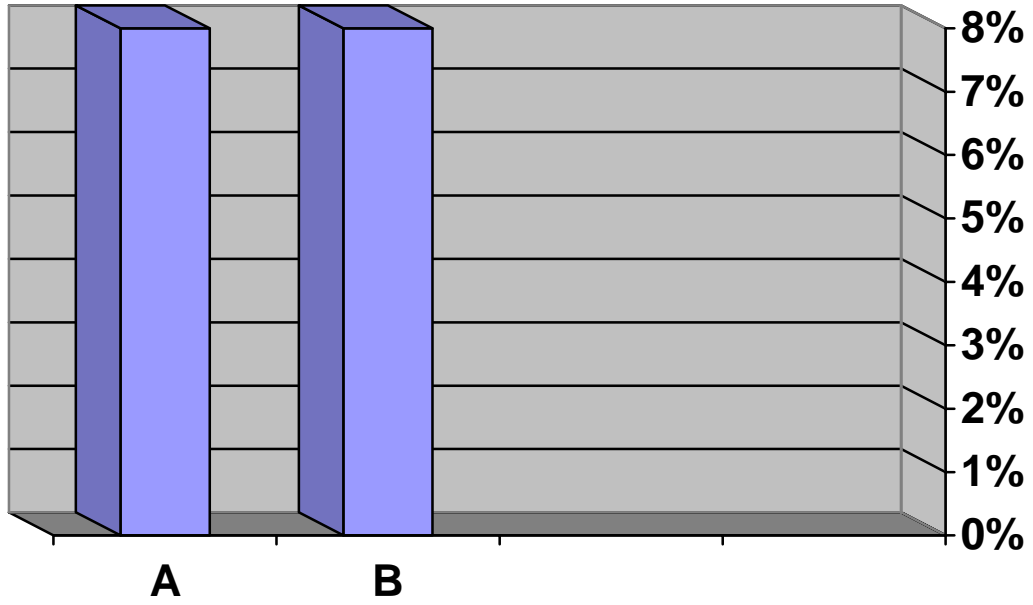
A. Popcorn reading	1/12	8%
B. Coaches	1/12	8%

Figure 4 Student Survey Results for Question 3

Do you think you are a fluent reader?

QUESTION 4
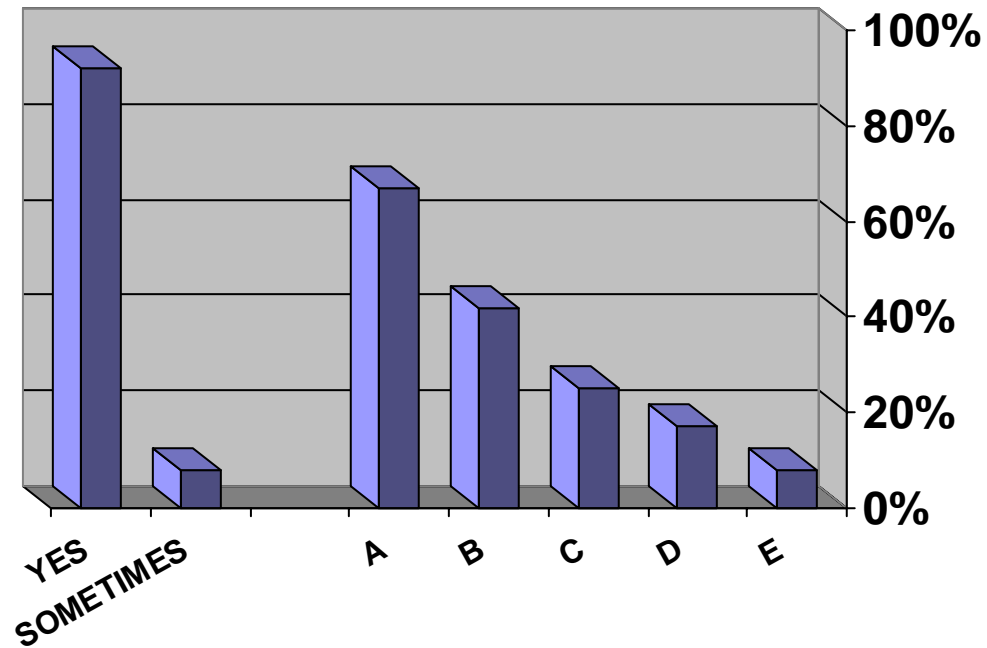
Yes	11/12	92%
Sometimes	1/12	8%

Why?

A. Read not too fast and not too slow	8/12	67%
B. Read with expression	5/12	42%
C. Read daily/ practice	3/12	25%
D. Sometimes I forget punctuation/expression	2/12	17%
E. Positive feedback from classroom teacher	1/12	8%

Figure 5 Student Survey Results for Question 4

These results demonstrate that students were able to identify various aspects of fluency as defined during the intervention. Students identified three main aspects of fluent reading: reading not too fast or too slow, how to be a fluent reader, and how to read with expression. Students felt that choral reading, "popcorn" reading and having a reading coach assisted them in becoming fluent readers. Overall students found that the various ways to reread text were helpful. At the end of the study, students saw themselves as fluent readers. They expressed they were fluent because they didn't read too fast or too slow, read with expression, and read/practiced reading daily. Overall the students had a positive attitude about the intervention.

4.4.   Summary

A general response to the intervention was that all participants improved in reading performance over the course of the study. More specific findings for each research question follows.

4.4.1.   Findings for Research question 1

Are there significant differences on pre and post measures of decoding and fluency between the performance of students in the intervention groups and the comparison group?

Nonsense Word Fluency

* students as a whole (all three groups combined) made significant gains pre to post

* good readers made the greatest gains from pre to post

* the improvement in nonsense word pronunciation cannot be attributed to any text type or influence of fluency

Oral Reading Fluency

* no significant change from pre to post reading on passages

* indicates no transfer to new and unfamiliar material

* neither text type nor fluency contributed to any significant effect

4.4.2. Findings for Research question 2

Are there differences in reading performance of students who experience reading decodable text and students reading less decodable text, on pre and post measures of fluency for each of the selections read by the two groups?

Comparison across three decodable and three less decodable texts

* students as a whole regardless of group or ability level made significant gains pre to post

* students' correct words per minute increased for each story and ability level

* significance for poor readers reading decodable text

Findings for each story

Story 1

* decodable text was beneficial for poor readers

* significant gains for poor readers in rate and accuracy from pre to post on a narrative text

Story 2

* no significant gains for either decodable or less decodable text from pre to post

* good, average, and poor readers all improved in rate and accuracy pre to post on an informational text

Story 3

* no significant gains for either decodable or less decodable text from pre to post

* good, average, and poor readers all improved in rate and accuracy pre to post on a

narrative text

5.   Conclusions

This chapter presents the findings of this study of repeated readings and decodable text. The intervention itself and considerations for the intervention in instruction are discussed, and recommendations for practice and research are made.

5.1.   Findings

1. Students as a whole, all three groups combined, made significant gains on Nonsense Word Fluency, a subtest of DIBELS. Good readers made the greatest improvements on NWF regardless the group in which they were placed. The improvement in nonsense word pronunciation cannot be attributed to either repeated reading practice or text type.

2. Students did not improve in rate or accuracy on the DIBELS over the course of the study regardless of which group they were in. There was no transfer of the repeated reading intervention to new and unfamiliar text.

3. The findings in terms of effect of repeated reading using specific type of texts indicate that while all ability groups in both groups (those reading decodable and those reading less decodable text) improved on correct words read per minute, significant gains were made by poor readers reading decodable text. This was especially true of the first of the three decodable texts read, in which there was an increase from an average of 53 words correct per minute to 125 words correct per minute.

4. Twelve students surveyed at the conclusion of the study, defined fluency in terms similar to those used in this study and identified the four ways to reread text as something helpful to them. All four techniques for repeated reading (choral reading, echo reading, partner reading,

and "popcorn" reading) were identified as ways to help students become fluent readers. No one type of repeated reading technique used in this study was identified as more helpful than another. At the conclusion of the study, all students surveyed identified themselves as fluent readers.

5.2.   Conclusions

The following conclusions can be drawn relative to the effects of repeated reading and specific types of text used.

1. Repeated reading does improve the fluency performance of students, regardless of ability, on the text being read. In this study, the students read each text four times, in four different ways. Each ability group improved over the course of the week from pre to post measures of fluency for each story read. Students were able to read more words per minute and with more accuracy after reading the text four times. This finding is supported by research that repeatedly reading text improves oral reading fluency (Blum, et. al, 1991; Dowhower, 1985; Herman, 1985; Kuhn & Stahl, 2002: O'Shea, et. al, 1985; Rachotte & Torgeson, 1987; Samuels, 1997). This technique assisted all readers regardless of ability, and appeared to be especially beneficial to poor readers as they had the greatest gains on text read in this study.

2. Type of text did not seem to matter, especially for good and average readers. No significance for text was found for these two ability groups. Perhaps good readers have developed skills and strategies that they use when reading text, regardless of its decodability. Text type seems to have some impact on poor readers. Poor readers improved the most on measures of rate and accuracy when reading decodable text. This was true across stories and especially for Story 1. Story 1 was the only decodable text that produced significant results.

This raises an issue about the definition of decodable text. A definition of decodable text has yet to be agreed upon. In other words what percentage of the text needs to be decodable

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to classify the text as decodable? Beck (1997) acknowledges gaps in research literature in regards to an optimal degree of decodability but suggests that about 70 to 80 percent decodable would be reliable enough. Still other say a high percent of decodability is enough; Groff (1999) indicates 100% is needed.   In Mesmer's (2001) literature review, it was recommended that a minimum of 64% of words should have been introduced in previous lessons for the text to be considered decodable. Clearly there is no agreement as to what percentage of decodability is appropriate. This limits conclusions that can be drawn for this research as well as other research on decodable text.

Decodable text is usually defined as text that has phonetic components, high frequency words, and few singletons (words that are not decodable and appear only once in text).   Hiebert (2002) determined that text that is more decodable with a large amount of high frequency words and few singletons were more advantageous to developing oral reading fluency. Her research with what she refers to as Critical Word Factors demonstrated that text that has low Critical Word Factor or text that is more decodable was more beneficial for developing oral reading fluency. The decodable texts selected for this study did not produce quite the same findings. Although poor readers did improve their rate and accuracy on decodable text, Stories 2 and 3 did not produce the significance of Story 1. The NPR (2000) identified the issue of reading decodable texts as one of three important neglected research topics. It seems the contributions of decodable text to fluency development remains somewhat questionable.   Mesmer states that, "The key to using highly decodable text lies in identifying the development of the reader and the teaching goals." (Mesmer, 2005, p82).   In another study, Jenkins (2004), using decodable and less decodable texts, found no difference in reading performance on posttests results. The intervention groups in the Jenkins study did improve in decoding, word reading, passage reading,

and comprehension measures. He indicates that the findings in this study leave open the question of whether different levels of text decodability in classroom instruction affect reading achievement.

Relative to the transfer effect and also impact of repeated reading when compared to a non-intervention group, the follow two conclusions can be made.

1. There was no effect of repeated reading or type of text on a transfer measure of decoding although all these groups improved in decoding nonsense words. Also,good and average readers were able to pronounce more nonsense words on the NWF post test than poor readers. Reading decodable or less decodable text did not improve students' ability to decode words.

2. Further, given that all these groups performed in a similar fashion on the "transfer" measure of fluency, there is no indication in this study that repeated reading or type of text influenced student performance. There was no significance for any ability groups or treatment on the post test for Oral Reading Fluency (ORF).   One reason for the lack of transfer may be the relatively short length of the study which lasted only five weeks.   Students read only three different texts during that time, and a longer time period where more texts were read may have produced different results in regards to transfer to new and unfamiliar text.

Also, most students in this study were proficient readers when the intervention was introduced. Many students, even the poor readers, were meeting the benchmark score for DIBELS Oral Reading Fluency. Only one student in the comparison group fell in the "at risk" category for fluency development on the pre-test. Therefore growth in oral reading fluency was difficult to attain since students were already fluent readers according to benchmark scores for the assessment instrument. See raw scores in Appendix I.

3. Students in this study perceived themselves as fluent readers at the conclusion of the study. They were able to identify the aspects of fluent reading defined by the investigator at the beginning of the study in terms of what they learned about fluent reading. All methods of repeated reading were seen as beneficial by the students in developing fluent reading. This seems to indicate that rereading text improved student's perceptions about their reading performance. Students were cognizant of the aspects of fluent reading (accuracy, speed, and prosody) and were able to identify these aspects in their discussions of fluency.

5.3.   Discussion

The need to continue to improve students' performance in oral reading fluency and accuracy make continued study of instructional techniques and text types an important undertaking. The following discussion centers on the practice of repeated reading, text type, and on the study design.

5.3.1.   Repeated Reading

Repeated Reading seems to be an important technique for improving oral reading fluency. It's value has been well documented in research (Dahl, 1974; O'Shea et. al, 1984,1985; Herman, 1985; Rashotte & Torgensen, 1985; Dowhower, 1987,1989; Hasbrouck, 1991). Recently however, Stahl (2004) raised an important issue for consideration: that is, perhaps the most important aspect of repeated reading is the fact that it provides students with more reading practice, something that can be provided in other ways also. Certainly, this is an issue that needs to be studied. At the same time, students in this study did enjoy the various approaches for reading, text that were employed, including echo, choral, partner and "popcorn" reading. When asked to comment on their reactions to the activities, students indicated that they enjoyed the

various techniques and that they felt that this practice helped them develop fluency. None of the four ways to reread text was preferred over another by the students. Using different approaches for reading text seemed to keep students engaged with text and hold their interest.

These approaches were accomplished in a short amount of time when compared to the overall amount of time allocated for the reading/language arts block. This makes repeated reading of text a valuable addition to any literacy program. It is easy to implement and can be beneficial to all students. What seems to be important is giving students the time and opportunity to engage in various types of practice reading text orally.

5.3.2. Text Type

The study results did not support one type of text over another in terms of affecting reading performance. However, the differences in the text types were minimal. Specifically, although the decodable text did, on average, contain more decodable words, high frequency words, fewer critical words and singletons, there was variation in the specific texts. The main difference between text types was that the texts identified as decodable definitely presented and practiced a specific phonetic element and other words in these texts followed a similar pattern (C-V-C, C-V-V-C).. This was not the case in the less decodable text. These texts had no specific phonetic element and did not follow a common pattern. The less decodable text contained more "r" controlled and multisyllabic words. Perhaps using text that were more decodable would have made a difference.

The topic of text decodability is all the more heated within the context of struggling readers. (Mesmer, 2005, p. 61) Yet, only a small amount of research has been conducted to

inform current knowledge. The NRP (2000) Snow, Burns, & Griffin (1998) noted this lack of research knowledge.

Although the rereading of one narrative text used in this study increased oral reading fluency significantly, no definitive conclusion can be drawn that decodable text, as defined in this study, is the best text to develop fluency for poor readers. Perhaps the idea of "one size fits all" does not apply when selecting text for fluency practice. This point was recently made in research by Towell (2002) who concluded that the selection of text depends on the child and where that child is in the reading process. She noted that this was especially important for struggling readers. Another researcher Jenkins (2004) found that at-risk first graders reading more or less decodable text did not differ on posttest measures of reading performance. In a recent study Mesmer (2005) suggested that no one material such as controlled, predictable, or decodable will work with all readers all the time.

5.3.3.   Study Design

The overall design of this quasi-experimental study was not difficult to implement. The investigator and classroom teacher were the instructors. The treatments of decodable, less decodable, and no intervention were randomly assigned by classroom for this study. The students had been heterogeneously assigned at the beginning of the year to the classroom by the school district. For the purpose of the study, teachers were asked to identify students as poor, average, or good readers based on overall classroom performance and running records.

There were some aspects of this study that did create limitations as to generalizability. There were fewer students identified as low or poor overall in the groups, e.g. the decodable text classroom had four poor readers, while the less decodable classroom had six poor readers. The

fact that the majority of the readers in the treatment groups were average or above may have affected the results of this study. Many of the students in both treatment groups were reading at or above grade level norms, as defined by DIBELS. Thirty one students comprised the treatment groups, twenty five of the thirty one were above grade level, six were at grade level and none were below grade level.

Also, the duration of this study was 5 weeks, three weeks of which were used for the intervention. A study with a longer duration may have resulted in greater gains and transfer to new and unfamiliar text.

5.4.   Recommendation for Practice

Based on findings from this study, the following recommendations can be made for instructional practice. These recommendations which are appropriate for good, average, and poor readers are easy to implement. Results from Mesmer (2005), Jenkins (2004), Towell (2002) and this study suggest that when considering the appropriate text for instruction, both the reader and the text type both need to be considered.   No one text type fits all, in other words, different readers may need different text. Teacher judgment is important when considering what text type is most beneficial for each student.   Classroom teachers need to "know" their students to determine appropriate text for instruction.   Decodable text may be beneficial for students who have not yet broken the code, and is appropriate for extended practice with previously taught phonetic elements. Whereas predictable text may facilitate students learning about print and may help some children transition into decodable text (Towell, 2002).

Repeated Reading of text can benefit students of varying reading abilities.   All students improved in their words read correct per minute pre to post for both decodable and less

decodable text. The time taken from classroom instruction to reread text was minimal. The

rereading of text is very easy to implement regardless of reading program used for reading

instruction.

The four strategies (echo reading, choral reading, partner reading, and "popcorn" reading)

used to improve fluency were easy to implement in the classroom setting. Time taken away

from other reading instruction was minimal. Students indicated that all four strategies were

helpful in improving their oral reading fluency, and no one strategy was preferred as the best for

improving reading performance. Using different ways to improve oral reading fluency seemed

to keep students engaged and interested in the text. A description of the four strategies can be

found in Appendix K.

5.5.   Recommendations for Research

In order to add to the body of research currently available, some recommendation for research

follow.

The results of this research raise an issue for future research. Is it repeated reading or

more practice that benefits readers in developing fluency? Is it possible that more practice with

text may result in improving students' reading performance?   A study with two different

interventions, where students repeatedly read texts and where students have more practice

reading a wide variety of texts for the same amount of time may shed some insight on whether

repeated reading or more practice benefits students' reading performance and fluency

development.

There is a need for continued investigation of decodable text with the criteria for defining such text being set in a much more rigorous fashion.

APPENDIX A

Script for Presenting Fluent Reading Lessons

Good Morning/Good Afternoon everyone! My name is Mrs. Chrisman. How are you today?

For the next few weeks, we are going to help you become a better reader. What do you think

good readers do? Students may suggest that good readers know the words, "sound out" words

they don't know, read a lot, and read out loud without making mistakes. The investigator will

include the following. When you read aloud you are telling what words you know and how

quickly you recognize these words. You stop at punctuation and group words together in phrases

or parts of sentences, and by your voice you tell the listener when the characters are excited, sad,

or angry.

Today I'm going to read you a story called Cendrillon by Robert San Souci. This is a

Cinderella story from the Caribbean. I'd like you to listen to the story and pay attention to how I

read the story. How do I use my voice to help you understand the story and what is happening to

Cinderella and the other characters in the story?   Does my reading at a certain pace make it

easier for you to understand and think about the events in the story? Do I seem to know the

words that I am reading? *The story will be read aloud to the students.*

After the selection has been read, the students will be led into a discussion about the rate

at which the story was read and if I knew the words that I was reading. Different portions of the

text will be reread at different rates demonstrating fluent and disfluent reading so students can

hear the difference. Different portions will be reread to express excitement and disappointment.

Students will be asked how I used my voice to let them know that the characters felt this way.

Some portion will be read with no expression to demonstrate disfluent reading.   Did I read in

phrases or word-by-word?   Could they tell when a sentence was finished? How? Portions of

the story will be reread showing no use of end punctuation, and word- by-word reading.

Students will be asked to compare fluent reading and disfluent reading.

Reading a story at a certain rate or speed, knowing my words and recognizing them quickly, using my voice to tell you what is happening and using the punctuation to help tell the story is called being a fluent reader.   A person who reads fluently reads at an appropriate rate, not too fast or slow,; reads with accuracy; reads in phrases and uses punctuation; and uses their voice to help the listener know what the author means with his/her words. We are going to practice being fluent readers over the next few weeks.   We will be reading different stories in small groups or with a partner.   Each story will be read four times. You and your partner will be coaching each other to help with words you don't know.   We will be practicing stories to become more fluent readers.

APPENDIX B

Script for Modeling Echo Reading

Good Morning/Good Afternoon! My name is Mrs. Chrisman.   Today your teacher and I are

going to show a way to practice being a fluent reader. . Does any one know what an echo is? If

students don't respond, say when something someone says is repeated back to them exactly as

they said it, this is an echo. Listen while your teacher and I echo something for you. *The*

investigator and teacher model an echo by repeating: Hello, Hello; How are you?, How are

you?. Your teacher and I will be reading a story together. I am going to read a sentence and

your teacher will read the same sentence after me. This type of repeated reading is called echo

reading. This is just like an echo, that's why it's called echo reading.

The teacher and investigator model echo reading. The investigator will ask the students to echo

the last page of the story. Students will be asked to practice echo reading in groups. The groups

are comprised of a good reader and 5 or 6 other students. The teacher and investigator will

circulate around the room and listen to students echo reading, offering assistance as needed.

The investigator will tell the students that this is another way to reread a story, and that they will

be using echo reading to read other stories.

APPENDIX C

Script for Modeling Choral Reading

Good Morning/Good Afternoon girls and boys! My name is Mrs. Chrisman.   What did we do

yesterday? Students will explain how to do echo reading. When students are finished,

investigator will compliment them on their knowledge about this technique to reread text.

Today I'd like to show you another way to reread text. Today your teacher and I are going to do

choral reading.   When everyone reads the same story saying each word together at the same

time, that is choral reading. Think about when you sing a song together in music class. You sing

the same words and the same notes all at the same time. This is like reading a story chorally.

Let's practice reading chorally. The investigator will pass out copies of There Was An Old

Woman Who Swallowed A Fly that has been marked for chorally reading. Students will read

this story together chorally (A copy of this text can be found below). Compliment students on a

job well done.

CHORAL READING		Markings
--	Poor old lady, / she swallowed a fly.	-- Read slowly
?	I don't know why she swallowed a fly.	/ Slight pause
--	Poor old lady, /I think she'll die.	? Sound like a question
--	Poor old lady, / she swallowed a spider.	* Make movement
*	It squirmed and wriggled and turned inside her	+ Read faster
+	She swallowed the spider to catch the fly	! With excitement
?	I don't know why she swallowed a fly.	
--	Poor old lady, / I think she'll die.	
--	Poor old lady, / she swallowed a bird.	
!	How absurd! She swallowed a bird.	
+	She swallowed the bird to catch the spider.	

+	She swallowed the spider to catch the fly.
?	I don't know why she swallowed the fly.
--	Poor old lady, /I think she'll die.
--	Poor old lady, /she swallowed a cat.
!	Think of that! She swallowed a cat.
+	She swallowed the cat to catch the bird.
+	She swallowed the bird to catch the spider.
+	She swallowed the spider to catch the fly.
?	I don't know why she swallowed the fly.
--	Poor old lady, / I think she'll die.
--	Poor old lady, / she swallowed a horse.
!	She died, of course!

APPENDIX D

Script for Modeling Paired Reading

Step 1

Hello everyone. My name is Mrs. Chrisman. Remember when I read you Cendrillon? Today

your teacher and I are going to show another way to practice being a fluent reader.   Does

anyone know how to do partner reading? The investigator will reiterate that reading with a

partner means you listen to each other read the story and help each other with words your partner

doesn't know. Your teacher will be pairing you with a partner. I would like you to sit next to

each other and read the story.   One person should read the story all the way through and the

other person will be your coach if you need help with a word. Then the other partner will have a

turn to read the story while the first reader is the coach. Reading coaches help their partners

when they come to a word they don't know. The first thing is to help your partner read through

the word. Then have them read the sentence again or read on. You need to help your partner see

if the word makes sense or sounds right. Remember to look at the reading coach poster if you

need help. If your reading coach doesn't know the word, you can ask the investigator or your

teacher for help. Does anyone have any questions about how to partner read?

Step 2

The classroom teacher and the investigator will model partner reading. Next the teacher and

investigator will model the different coaching strategies one at a time.   Students will be cued to

look at the poster for coaching strategies. The strategies are of two types, one primary cues and

the other confirmation cues. The Primary cues are to Work Through the Word. The coach will

assist their partner to identify the beginning, middle, and end sounds in the unknown word. Then

Confirmation cues will be applied. These clues have the student reread the sentence or read on,

have the student decide if the word makes sense and if the word sounds right. (Bulazo, 1999).

The reader's metacognition plays a large role in these coaching strategies. The teacher and

investigator will pair the students and they will practice partner reading with text supplied by the investigator. The investigator and classroom teacher will monitor and scaffold the partner reading by walking around the room and listening while students read. Suggestions and questions will be asked and answered if students are having any difficulty with this task.

APPENDIX E

Script for Modeling Paired "Popcorn" Reading

Good Morning/ Good Afternoon everyone! My name is Mrs. Chrisman. Who can tell me one

way to reread a story? (echo reading, choral reading, partner reading/coaching) Today I'd like to

show you another way to reread text. Your teacher and I will be partner reading "popcorn" style.

Does anyone know what "popcorn" reading is? If student does not answer say, "If the whole

class is "popcorn" reading the teacher will call on students to read by skipping around the room.

Any students can be called on to read at any time." Let's practice "popcorn" reading. The

students will "popcorn" read   two pages of their present anthology story.

When students do partner "popcorn" reading each student will be reading the same text as his/her

partner. The student can stop reading at any time, at the end of a sentence, at the end of a phrase,

in the middle of a line, or at the end of a page. Where ever you stop reading your partner will

start reading and read until he/she stops and then the first reader starts reading again. The

teacher and investigator model this type of "popcorn" reading. Ask students if they have any

questions. Remind them of the coaching strategies for helping your partner if they don't know a

word.

Students will reread the text using partner "popcorn" reading as the teacher and investigator walk

around the room and listen offering support as needed.

APPENDIX F

Reading Coach Prompts

PRIMARY CUE

Work through the word
     How does the _____ sound? (initial letters)
     How does the _____ sound? (middle letters)
     How does the _____ sound? (end letters)

CONFIRMATION CUES

Read the sentence again <u>or</u> Read on
Did that make sense?   Then…
Did that sound right?   Then…

(Bulazo, 1999)

APPENDIX G

A Fluent Reader

A Fluent Reader

Reads not too fast and not too slow

Knows the words

Uses his/her voice to tell what is happening

Uses punctuation to help tell the story

APPENDIX H

Procedures for Assessment and Instruction for Intervention Classrooms

Procedures for Assessment for All Intervention Classrooms
Procedures for Instruction for both decodable and less decodable texts

Week	Day	Instructional Activity	Investigator &Instructor
Week 1	Day 1	Introduction to students	Investigator and other assessors
		Reasons for students' participation	Investigator gives explanation
		Begin Pre tests DIBELS NWF and DORF	Investigator and assessors
	Day 2	Continue Pre tests	Investigator and assessors
	Day 3	Continue Pre tests	Investigator and assessors
	Day 4	Finish DIBELS Pre tests	Investigator and assessors
	Day 5	Read Aloud of story to model fluent and disfluent reading.	Investigator and assessors
		Define fluent reading. (Poster)	Investigator
		Pre test for Story 1	Investigator and Assessors
Week 2	Day 1	Define and model echo reading.	Investigator and Teacher
		Investigator and teacher read Story 1 aloud and model echo reading.	Investigator and Teacher
		Reread the complete story.	Investigator
		Students echo read	Students

	the last page.	
	Students echo read the story in groups of 5 or 6; one good reader is the main reader and others echo.	Investigator and Teacher monitor
Day 2	Review echo reading.	Investigator
	Review definition of a fluent reader.	Investigator and Teacher
	Define and model choral reading.	Investigator, Teacher and students
	Students read a practice passage chorally.	Investigator and students
	Students read intervention text chorally in groups of 5 or 6; one good reader in each group.	Investigator and Teacher monitor
Day 3	Review echo and choral reading.	Investigator
	Review definition of a fluent reader.	Investigator
	Define and model paired reading.	Investigator and Teacher
	Introduce reading coaching strategies. (Poster)	Investigator

		Model each coaching strategy.	Investigator and Teacher
		Pair students with a partner.	Teacher
		Students read intervention text with a partner, one student reads and one student coaches and then reverse roles.	Investigator and Teacher monitor
	Day 4	Review echo, choral and paired reading and coaching strategies.	Investigator
		Review definition of fluent reading.	Investigator
		Define and model paired "popcorn" reading.	Investigator and Teacher
		Pair students with a partner.	Teacher
		Students read intervention text "popcorn" style with a partner and coach.	Investigator and Teacher monitor
	Day 5	Post test for Story 1	Investigator and Assessors
		Pre test for Story 2	Investigator and Assessors
Week 3	Day 1	Introduce and read Story 2.	Investigator
		Review echo	Investigator

		reading.	
		Review fluent reading.(Poster)	Investigator
		Students echo read the story in groups of 5 or 6; one good reader is the main reader and others echo.	Investigator and Teacher monitor
	Day 2	Review choral reading.	Investigator
		Review fluent reading (Poster).	Investigator
		Students read intervention text chorally in groups of 5 or 6; one good reader in each group.	Investigator and Teacher monitor
	Day 3	Review paired reading.	Investigator
		Review reading coach strategies. (Poster)	Investigator
		Review fluent reading. (Poster)	Investigator
		Pair students with a partner.	Teacher
		Students read intervention text with a partner; one student reads and one student coaches and then reverse	Investigator and Teacher monitor

		roles.	
	Day 4	Review fluent reading. (Poster)	Investigator
		Review paired reading "popcorn" style.	Investigator
		Review reading coach strategies. (Poster)	Investigator
		Pair students with a partner,	Teacher
		Students read intervention text "popcorn" style with a partner and coach.	Investigator and Teacher monitor
	Day 5	Post test for Story 2	Investigator and Assessors
		Pre test for Story 3	Investigator and Assessors
Week 4	Day 1	Introduce and read Story 3.	Investigator
		Review echo reading.	Investigator
		Review fluent reading.(Poster)	Investigator
		Students echo read the passage in groups of 5 or 6; one good reader is the main reader and the others echo.	Investigator and Teacher monitor
	Day 2	Review choral	Investigator

		reading.	
		Review fluent reading.(Poster)	Investigator
		Students read intervention text chorally in groups of 5 or 6; one good reader in each group.	Investigator and Teacher monitor
	Day 3	Review paired reading.	Investigator
		Review reading coach strategies. (Poster)	Investigator
		Review fluent reading. (Poster)	Investigator
		Pair students with a partner.	Teacher
		Students read intervention text with a partner, one student reads and one student coaches and then reverse roles.	Investigator and Teacher monitor
	Day 4	Review fluent reading. (Poster)	Investigator
		Review paired reading "popcorn" style.	Investigator
		Review reading coach strategies. (Poster)	Investigator

		Pair students with a partner.	Teacher
		Students read intervention text "popcorn" style with a partner and coach	Investigator and Teacher monitor
	Day 5	Post test for Story 3	Investigators and Assessors
Week 5	Day 1	Begin Post tests DIBELS NWF and DORF.	Investigator and Assessors
	Day 2	Continue Post tests	Investigator and Assessors
	Day 3	Continue Post tests	Investigator and Assessors
	Day 4	Continue Post tests	Investigator and Assessors
	Day 5	Student Surveys Classroom visit	Investigator

APPENDIX I

Raw Scores for Pre/Post Benchmark Measures and Pre/Post Scores for Stories

Raw Scores for Pre/Post Benchmark Measures

Student	Nonsense Word Fluency		Oral Reading Benchmark	
	Pre	Post	Pre	Post
1	79	112	107	92
2	117	125	118	124
3	81	99	61	79
4	135	140	140	151
5	108	84	93	92
6	46	64	108	103
7	26	39	75	74
8	79	86	73	66
9	37	61	46	49
10	89	99	106	97
11	117	140	106	97
12	126	99	101	105
13	22	29	72	68
14	106	130	120	115
15	129	125	127	117
16	68	101	123	123
17	135	142	132	121
18	105	113	135	118
19	66	138	163	161
20	61	45	54	64
21	100	113	103	94
22	105	132	147	169
23	66	106	142	138
24	60	84	108	118
25	60	71	100	114
26	47	47	63	60
27	35	41	52	47
28	19	29	66	70
29	139	140	140	129
30	59	124	153	153
31	61	138	136	136
32	88	105	99	95
33	40	41	62	68
34	71	91	86	89
35	129	140	155	152
36	91	117	136	152
37	46	83	77	69
38	85	88	63	59

Benchmark Scores for Middle of Second Grade for Oral Reading Fluency

ORF<52   At Risk
52<=ORF <68   Some Risk
ORF>=68   Low Risk

Benchmark Scores for End of Second Grade for Oral Reading Fluency

ORF< 70   At Risk
70<=ORF < 90   Some Risk
ORF>=90   Low Risk

Raw Scores for Story 1, Story 2, and Story 3 for Decodable and Less Decodable Text

Decodable Text

Student	Story1		Story2		Story3	
	Pre	Post	Pre	Post	Pre	Post
17	140	172	129	172	128	194
18	100	119	99	135	97	113
19	147	172	127	194	159	212
20	48	133	59	117	68	140
21	110	111	84	120	113	181
22	111	169	132	148	126	199
23	131	144	118	156	123	191
24	119	159	124	141	100	166
25	55	106	71	145	67	130
26	64	102	65	92	53	116
27	45	159	59	74	35	81
28	55	106	71	145	67	130
29	144	193	121	168	116	191
30	103	119	124	148	119	150
31	109	130	126	174	147	157

Less Decodable Text

Student	Story1		Story2		Story3	
	Pre	Post	Pre	Post	Pre	Post
32	84	141	50	147	129	163
33	59	97	86	124	52	112
34	87	114	86	128	67	140
35	134	175	124	175	136	182
36	104	162	116	176	122	214
37	60	104	65	113	48	122
38	61	86	67	85	40	93
39	124	137	156	172	104	175
40	104	130	53	135	78	153
41	102	172	156	159	109	161
42	135	115	64	115	60	138
43	118	96	59	113	44	106
44	98	147	102	156	100	150
45	75	113	83	127	60	129
46	157	169	97	164	98	147
47	102	142	91	162	78	136

APPENDIX J

Word List for Stories Decodable and Less Decodable

Decodable Text
Story 1 Guided Reading Level G for Ready Readers
The Family Tree

a	it	was
about	it's	watching
all	just	waved
alone	let	we
and	let's	well
are	like	what
be	look	woof
bed	Mom	would
brother	Mom's	yet
boy	nice	you
but	now	
can	not	
Chet	oh	
climb	ok	
crack	pet	
come	please	
dad	red	
dear	said	
did	she	
does	setting	
don't	stay	
down	staying	
doing	sleep	
face	sunset	
for	Ted	
Fred	Ted's	
from	the	
fun	that	
get	there	
good	they	
got	time	
have	to	
he	too	
hello	tree	
here	up	
I'll	us	
I'm	wait	
in	want	

Story 2 Guided Reading Level I for Ready Readers
Frog or Toad?

a	not
alike	now
also	of
and	on
any	same
are	skin
at	smooth
be	sometimes
bumped	soon
but	sound
can	strings
croak	tadpoles
deep	tails
different	tell
do	the
dry	their
eggs	there
float	these
frog	they
frogs	throat
from	to
has	toad
hatch	toads
have	too
how	tap
in	water
it	wet
its	will
know	you
land	
lay	
legs	
like	
live	
long	
look	
lot	
lots	
make	
more	
nee	
near	
need	

Story 3 Guided Reading Level K for Ready Readers
Bedtime at Aunt Carmen's

a	night	you
after	nobody	
all	of	
and	on	
any	poke	
are	poked	
at	poking	
aunt	pushed	
back	remembered	
bed	said	
brother	see	
bump	share	
bumped	shove	
bumping	shoved	
but	shoving	
Carmen	sleep	
Carmen's	snore	
couch	snored	
cover	snoring	
did	somebody	
didn't	something	
dog	staying	
don't	stop	
Edgar	the	
fun	them	
going	then	
guess	this	
had	tired	
have	to	
having	told	
he	tug	
heard	tugged	
I	tugging	
I'll	turned	
I'm	was	
it	wasn't	
know	we	
left	well	
light	what	
me	while	
my	who	
myself	with	
never	woof	

Less Decodable Text
Story 1 Sunshine Books Early Fluency Fiction Level 3
Birthday Dog

a	keeper	their
about	know	them
after	little	there
and	long	they
are	look	they're
at	lot	things
also	loud	think
baby	mama	this
back	more	those
barks	no	to
be	noisy	tomorrow
been	none	too
big	nose	trained
birthday	not	twins
but	now	up
cage	of	us
came	old	want
chews	on	wants
children	one	was
cut	our	we
do	papa	we'll
dog	pound	well
dogs	pup	went
down	puppy	were
ears	right	what
enough	said	where
face	saw	with
for	she	white
fun	she'll	whose
get	she's	work
go	short	woof
going	showed	we're
had	shrill	yip
happy	small	young
hair	so	
hanging	spots	
house	standing	
I	tail	
is	than	
isn't	that	
important	that's	
it's	the	

Story 2 Sunshine Books Emergent Level H Nonfiction
Animal Hospital

a	lizard
again	lizards
an	nose
and	of
animal	on
animals	or
any	owner
are	paw
big	place
bird	puppy
birds	puppies
bones	she
broken	shot
bugs	sick
care	skin
clean	sneezes
cleans	sprays
cut	spreads
doctor	sprouts
doctors	stay
dog	take
dogs	takes
eating	tells
feed	that
finds	the
food	this
for	to
gives	very
good	wasn't
grass	well
has	wing
helps	wraps
hospital	X ray
hurt	
if	
is	
it	
itchy	
its	
kill	
kitten	
kittens	
little	

Story 3 Sunshine Books Fiction Early Fluency Level K
Dragon with a Cold

a	guess	smell
ah-ah-ah-choo	had	sneezed
all	handkerchiefs	sneezing
and	hate	sniff
anything	he	so
apple	head	socked
apples	her	some
bag	him	still
bed	himself	take
better	his	temperature
big	I	that
blankets	in	the
burned	is	thermometer
burning	it's	this
but	know	thought
caught	lemon	time
cheer	lemon's	tired
cloth	lots	tissues
cold	made	to
cooked	make	today
coughed	melted	tree
couldn't	might	up
daisies	moaned	very
department	Mom	wallpaper
desk	mouth	want
dressed	nice	warm
did	not	we
didn't	of	went
doctor	on	what
dozens	only	when
dragon	or	will
dragon's	our	with
drinks	over	without
every	pain	world
feet	paper	worse
fire	pick	your
flames	problem	you're
flowers	put	
fuss	said	
gave	say	
get	see	
got	set	
groaned	she	

APPENDIX K

Four Strategies for Reading Text

Echo Reading

One student reads a sentence or a paragraph aloud. Another student or group of students reads the same sentence or paragraph back to the original reader. This process continues until the entire text selection is read aloud. Echo reading can be used with any type of text, narrative, informational and/or poetry. Readers should be encouraged to read the selection with expression, at an appropriate pace, accuracy and prosody.

Choral Reading

Students read the text selection together as a chorus. This works well with an entire class, where students can be divided into small groups with each group reading part of the text together. However students may be paired to read text chorally. It is a way that text can be segmented and reread with different groups of students reading different parts of the selection. This technique works with narrative, informational text and poetry.

Partner Reading

Students are paired with a partner to reread text. Partner selection is very important and generally works best when high-average and average-struggling readers are partnered together. The entire text is read while partners take turns reading. Partners may read the entire selection, then the other reader reads the selection or partner may take turns reading pages or sentences. Occasionally partners may sit back to back to reread text, this changes the technique and keeps students engaged.

"Popcorn" Partner Reading

"Popcorn" reading resembles partner reading except student may stop reading anywhere in the text and the partner starts reading at that precise point. Partner may stop at the end of a page, paragraph or mid sentence. This technique keeps students engaged requiring them to stay on task since their partner may stop anywhere when reading. This technique works well with any type of text, narrative, informational and/or poetry.

All of these strategies assist students with word recognition, fluency, and comprehension.

APPENDIX L

Permission Letters to Superintendent and Parent/Guardian

Date

Dr.
Superintendent
School District

Dear Dr.

Learning to read is a goal of any primary reading program. Our Reading program has many components to help students achieve reading success with grade level reading. One component for successful reading is oral reading fluency. As a doctoral student at the University of Pittsburgh, under the supervision of Dr. , I am interested in closely examining the development of oral reading fluency. The purpose of this study is to determine if one text type and repeated readings of a text will assist in developing oral reading fluency as well as its effects on student's reading abilities.

In order to pursue this project, I would need to collect data on the reading performance of students in three second grade classrooms. Mrs., Mrs. , Mrs. or I will administer individualized reading assessments. These assessments include the DIBELS Test of Oral Reading Fluency, words per minute oral fluency measure and the DIBELS Nonsense Word Fluency. These assessments will be scheduled in collaboration with the classroom to avoid disruption to the student's routine and learning. The individual assessments will take approximately 20 minutes. In addition to these assessments I will be listening to the students reading the story for the week and the next week's story to check fluency development. The reading of these two stories will take approximately 5 minutes.

Confidentiality will be maintained. Information collected in this study will be presented in the dissertation in a manner so as to maintain the privacy of the students, teachers, and school district. This information will be available to share with administrators, teachers, or parents to enhance students' instruction.

I look forward to conducting this study. It is my hope that new insight will be gained about the type of text that will foster fluency development. I greatly appreciate your cooperation as I embark on this endeavor.

Sincerely,

Tiffany A. Chrisman

I agree to the conditions of this project. I understand that the name of the school as well as the teachers and students will be reported using pseudonyms in order to maintain confidentiality.

Signature_____   Date_____

Date

Dear Mrs. , Mrs., and Mrs.,

   Learning to read is a goal of any primary reading program. Our Reading program has many components to help students achieve reading success with grade level reading.   One component for successful reading is oral reading fluency. As a doctoral student at the University of Pittsburgh, under the supervision of Dr. , I am interested in closely examining the development of oral reading fluency. The purpose of this study is to determine if one text type and repeated readings of a text will assist in developing oral reading fluency as well as its effects on student's reading abilities.

   In order to pursue this project, I would need to collect data on the reading performance of students in three second grade classrooms. I will administer individualized reading assessments. These assessments include the DIBELS Test of Oral Reading Fluency, words per minute oral fluency measure and the DIBELS Nonsense Word Fluency. These assessments will be scheduled in collaboration with the classroom to avoid disruption to the student's routine and learning. The individual assessments will take approximately 20 minutes. In addition I will also listen to students read the week's story orally to check fluency development. I will also listen to students read the next week's story aloud. The reading of these two stories will take approximately 5 minutes.

   Confidentiality will be maintained. Information collected in this study will be presented in the dissertation in a manner so as to maintain the privacy of the students, teachers, and school district. This information will be available to share with administrators, teachers, or parents to enhance student instruction.

   I look forward to conducting this study. It is my hope that new insight will be gained about text, repeated reading and fluency   I greatly appreciate your cooperation as I embark on this endeavor.

Sincerely,

Tiffany A. Chrisman

   Signature indicates the study has been explained to the classroom teacher and she is willing to participate in the project. It is understood that the name of the school and participants will be reported using pseudonyms therefore identity will remain confidential.

Signature_____   Date _____

Date

Dear Parents/Guardians,

      As a doctoral student at the University of Pittsburgh, under the supervision of Dr. , I am interested in closely examining the development of oral reading fluency. The purpose of this study is to determine if one text type and repeated readings of a text will assist in developing oral reading fluency and improving students' performance.

      Learning to read is a goal of any primary reading program. Our Reading (Houghton Mifflin, Invitations to Literacy) program has many components to help students achieve reading success with grade level reading.   One component for successful reading is oral reading fluency. Oral reading fluency is important because it builds word recognition, listening comprehension, increases vocabulary, and is tied to comprehension.   The study would employ strategies to develop fluency that would not deviate from present classroom procedure.   Students will have opportunities to participate in activities that have been highly effective in promoting effective oral reading.

      In order to pursue this project, I would need to collect data on the reading performance of students in three second grade classrooms. Mrs. , Mrs., Mrs. or I will administer individualized reading assessments. These assessments include the DIBELS Test of Oral Reading Fluency, words per minute oral fluency measure; DIBELS Nonsense Word Fluency; and the DIBELS Word Use Fluency. These assessments will be scheduled in collaboration with the classroom teacher to avoid disruption to the student's routine and learning. The individual assessments will take approximately 20 minutes to administer (both pre and post tests). The group theme test will take approximately 30 minutes to administer. The assessments for each classroom will be completed on three different days, one for each classroom. The entire study will be conducted over a five week period including testing and strategies to develop fluency.

      Confidentiality will be maintained. Information collected in this study will be presented in the dissertation in a manner that maintains the privacy of the students, teachers, and school district. This information will be available to share with you and with administrators, and teachers to enhance students' instruction.

      With your permission, I look forward to conducting this study. I would be happy to call you or meet with you to further explain this project if you feel you need more information. You may contact me by phone. To indicate your willingness to allow your child to participate in this study, please sign and date the bottom portion of this letter and return it to your child's classroom teacher as soon as possible.

Sincerely,

Tiffany A. Chrisman

      I give my permission for _____ to take part in the above-mentioned study to be conducted by Mrs. Chrisman at school name. I understand all information collected will remain confidential and that there will be minimal disruption to my child's school schedule. I reserve the right to review the information on my child at any time during the study.

Parent Signature_____   Date _____

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