The Impact of Multiple Fluency Interventions on a Single Subject

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Jennifer Morra and Diane H. Tracey

Abstract

This study investigates the effectiveness of multiple fluency interventions on a single subject in grade three. Fluency interventions, including choral reading, echo reading, repeated reading, audio book modeling, and teacher modeling were implemented over a period of eight weeks. Results indicated that using multiple fluency strategies, rather than a single fluency strategy as is usually investigated, was positively associated with improvement in oral reading.
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Fluency and Oral Reading

The ability to identify words accurately and quickly in text is defined as oral reading fluency (Speece & Ritchey, 2005). Fluency consists of three components: reading speed, automatic word recognition, and prosody (Zutell & Rasinski, 1991). Some researchers hypothesize that fluency is the result of automatic decoding and, therefore, word recognition skills must be intact before fluency can be developed. However, according to Allington (1983), automatic word recognition should not be mistaken for fluency, as fluency does not depend solely on reading rate. Despite this, Allington maintains that as young children move beyond the emerging stages of reading, fluency is allegedly an important step in “developing effective and efficient readers” (p.561).

Many researchers agree that while readers must be capable of recognizing words automatically, they must also read at an appropriate rate with phrasing and expression in order to interact meaningfully with a variety of texts (Zutell & Rasinski, 1991). Prosodic reading, or reading with expression, is one of the essential aspects of reading fluency. When a child is reading with prosody, appropriate phrasing, pause structures, stress, rise and fall patterns, and general expressiveness are manifested. This occurs once decoding skills are intact. As children become fluent decoders, their reading mirrors that of a proficient reader. These characteristics include reading with short, even pauses between sentences, and ending sentences with a falling pitch. On the other hand, emerging decoders read with lengthy, sporadic pauses between sentences and sentences are ended with a flat tone (Schwanenflugel, Hamilton, Kuhn, Wisenbaker, & Stahl, 2004). Prosody indicates that the reader has segmented text according to major syntactic-semantic elements (Kuhn & Stahl, 2003).

Fluent readers are able to decode automatically without attention and, therefore, are able to process meaning at the same time that they decode words (Homan, Klesius, & Hite, 1993). However, students with learning or reading disabilities demonstrate difficulties in the area of fluency, including the ability to read sight words, decode words, and read phrases and sentences automatically and rapidly. Fluency is essential for these students because they often have arduous reading, which results in
slow and disconnected oral reading. This effortful reading is problematic because it focuses reading at the decoding and word level, which makes comprehension virtually impossible (Chard, Vaughn, & Tyler, 2002).

Instruction in oral reading fluency is important for developing readers. First, children need to hear themselves read so that they become aware of how their reading sounds. Second, children need to receive feedback from adult readers in order to monitor reading progress. Finally, children can show off an acquired skill valued by society through oral reading (Taylor & Connor, 1982). Fluency is an essential link between word analysis and comprehension of text and, therefore, is considered a necessary tool for learning from reading (Chall, 1983). Various researchers have found that there is a direct relationship between reading fluency and comprehension.

Ways to Assess Oral Reading

*Pseudo word-reading rate*

A valid way to decipher if a child can decode unfamiliar words is to have the child attempt to read pseudo, or fake, words. Shankweiler et al. (1999) describe pseudo word reading as “the purest measure of skill in converting print to phonological structures” (p.86). Naming speed of pseudo words is a decoding task that requires students to identify sounds represented by individual letters and letter combinations, and then blend the sounds to form a word. These skills are referred to as phonological analysis, word analysis, or “sounding out” skills (Jones, Torgesen, & Sexton, 1987). Decoding pseudo words ensures that the child has not had previous experience with the words. The reader must convert the print to speech and recode phonologically to identify the pseudo words accurately. Children who can read pseudo words accurately and rapidly have little difficulty decoding running text composed of familiar, regularly pronounced words. Pullen, Lane, Lloyd, Nowak, & Ryals (2005) found that pseudo word decoding is highly correlated with reading comprehension.
Miscue Analysis

Miscues, or errors, are a way to understand how and why readers respond to text as they do (Martens, 1997). Parker & Hasbrouck (1992) found that both traditional oral reading fluency and oral reading accuracy based on severe miscues are efficient, individual assessment tools. They also found that reliable miscue coding is difficult to achieve and that not all miscues appear equally usable. Miscue analysis research shows that longer passages support readers’ meaning construction across the text (i.e. a whole story is easier to read than a page) and readers’ miscues across a text reflect their accumulating knowledge as they become familiar with the story (Menosky, 1971). Miscue analysis allows for the opportunity to support readers who are knowledgeable and capable language users and who possess a variety of strengths in becoming more proficient readers (Martens, 1997).

Names Test

The Names Test is a tool that can be used to obtain information about how well students decode words that are likely to be in their listening vocabularies but not in their sight vocabularies. This assessment uses persons’ names, thereby providing an ideal source of words for use in assessing decoding skills as children do not often see these words in print. Names are not some of the most common words and represent a balance of short and long words. They are fully decodable, given commonly taught vowel rules and/or analogy approaches to decoding, and represent a good sampling of the most common English spelling patterns (Cunningham, 1990).

Fluency Interventions

The National Reading Panel (2000) presented the case that instruction in guided oral reading is an important part of a reading program and is associated with gains in fluency and comprehension. For children to read fluently, the majority of words encountered in text should be sight words because they are immediately recognized and require no decoding that would interfere with comprehension (Samuels & LaBerge, 1983). Hoffman and Isaacs (1991) and Beach (1993)
suggest teaching fluency by encouraging student connections to the story, providing activities that pre-teach new vocabulary words, modeling and instructing fluency activities, allowing for ample time to practice fluency activities, and centering oral reading on whole texts. In addition to these strategies, Rasinski (1989) identified other principles that can guide the development of appropriate fluency instruction in the classroom. Along with modeling fluent reading, these principles include direct instruction and corrective feedback in fluency, choral reading, repeated readings of one text, and providing students with easy materials for reading.

**Modeling**

It is important for every student to listen to effective fluent oral reading during reading instruction in order to improve reading fluency (Richards, 2000). Furthermore, having text read initially by a model promotes comprehension, perhaps because it allows students to focus initially on the content of the passage before they read it themselves (Rose & Beattie, 1986). In addition to the importance of fluent modeling at school, Allington (1983) argues that children who have models of fluent oral reading at home recognize that the ultimate goal of reading is on meaningful expression and not solely on accuracy.

**Providing Corrective Feedback**

Correction and feedback for words read incorrectly seems to enhance students' overall fluency (Smith, 1979). Furthermore, Weinstein & Cooke (1992) contend that advancing students through progressively more difficult text based on their performance also seems to improve overall fluency. In instances where corrective feedback was combined with repeated reading, students were more successful at boosting their fluency, primarily by decreasing their reading errors (Chard, et al., 2002). Additionally, O’Shea, Sindelar, & O’Shea (1985) found that giving students cues when they read aloud has an effect on fluency. Cues such as: “Pause at periods and commas”; “Read with expression”; and “Watch for word endings” were seen as more beneficial than general cues, such as “Read well.” In conclusion, controlling the
difficulty of text, in combination with providing feedback for words missed, are valuable strategies to increase fluency.

Choral Reading

Through choral reading, "children learn to enjoy listening and responding to sound, stress, duration, and pitch" (Miccinati, 1985, p.207). Rasinski, Padak, Linek, & Sturtevant (1994) conducted a study in which children were given a copy of a poetry selection to chorally read. The selection was written on chart paper and an illustration was provided to develop meaning for the students. Finally, a simple motion was performed to match the meaning of each phrase. The researchers found that the students who were taught this fluency development lesson had significantly higher rates of oral reading than did their matched peers. According to Richards (2000), prosodic cues, such as those provided in this choral reading activity, give students the ability to develop skills in identifying grammar patterns as well as detecting prosodic features of a specific selection. These skills are necessary so that fluent oral reading can be accomplished.

Repeated Reading

Several researchers have found that one of the most effective methods for developing fluent reading is through repeated reading of text (Mercer, Campbell, Miller, Mercer, & Lane, 2000). This activity consists of readers reading the same text a number of times until goals of speed and accuracy are reached. The outcome of repeated reading is an increase in rate and accuracy, which subsequently transfers to new texts. This activity also helps children to further understand the phrasing of text and may lead to increased comprehension of the selected text as a result of multiple exposures (Dowhower, 1989). By rereading word lists, repeated reading appears to help poor readers learn more words (Faulkner & Levy, 1999). Because fluent reading is promoted by frequent opportunities to practice with familiar text and to increase exposure to words, this activity is particularly effective and supported as a means of increasing reading performance (Chard, et al., 2002).

In a study by Cooper & Paccia-Cooper (1980), before engaging in repeated reading, children in grade two showed adequate word decoding
but read in a slow, word-by-word way. After repeated reading practice, children made fewer pauses not dictated by sentence structure and showed greater sentence-final vowel lengthening. Another study that illustrates the effectiveness of repeated reading was conducted by Martens (1997). This study, however, focused on an individual student who, through repeated reading, gained familiarity with all aspects of the story. As a result of the student’s understanding, familiarity, and experience with the story, predictions were made more easily, which ultimately propelled his speed and accuracy.

Although repeated reading is highly effective, assisted repeated reading practice, or reading familiar text under the supervision of a fluent reader, appears to be the most powerful approach to repeated reading intervention (Kuhn & Stahl, 2003). In this model, students are grouped so that proficient readers guide less able readers. Koskinen and Blum (1986) explain that paired repeated readings use repeated readings of one text, as well as feedback for every student’s reading. Passages of about 50 words are selected and read silently by each student. Partners then take turns reading the passage three times orally, in succession, to one another. The listening student gives suggestions and positive feedback to the partner. The researchers found that paired reading resulted in more meaningful reading, as well as improvements in fluency.

Providing Manageable Text

Decodable text has been recommended to offer students practice in letter-sound correspondences they have been taught, as well as reinforce the application of word-level decoding skills. Readers can subsequently respond to these letter patterns automatically, which enables them to move into the full alphabetic phase of reading (Ehri & McCormick, 1998). Furthermore, controlling the reading level of materials offers more redundancy for high-frequency words, word patterns, and vocabulary, which many researchers suggest can lead to improved fluency (O’Connor, et al., 2002). Fluency appears to develop more quickly if deliberate attention is given to setting criteria and adjusting the difficulty level of text as young readers progress (Chard, et al., 2002). Keehn (2003) concluded that when readers can read materials with 95 percent accuracy, they have the opportunity to develop fluency.
Controlling the amount of text presented may be beneficial for students who are experiencing difficulty with reading accuracy as it may force them to focus on the words for a longer period of time (Cohen, 1988). Fountas & Pinnell (1999) argue that when children read books at appropriate levels, they are able to apply the strategies they are acquiring. This is important for weaker readers because Faulkner & Levy (1994) found that poor readers who read difficult text seemed to focus more on individual words rather than on text content. However, when texts shared words rather than content, students' fluency increased.

Text is considered decodable when it includes features such as word regularity, frequency, complexity, and lesson-to-text match (Mesmer, 2001). Additionally, Hoffman and Isaacs (1991) recommended text with a predictable structure that includes rhyming patterns, repeating refrains, or cumulative episodes. Prediction is an extremely important strategy in making sense of text because struggling readers often finally meet success in “cracking the code” when they use predictable text (Kane, 1999). Furthermore, Zutell & Rasinski (1991) suggested that teachers use texts at an instructional or independent level that model natural language patterns when the purpose of instruction is fluency. Young & Bowers (1995) advocated providing struggling readers with text chunked in words or phrases as a means of improving fluency and comprehension.

Findings from a recent study completed by Vadasy, Sanders, & Peyton (2005) suggested that in the context of supplementary tutoring, oral reading practice in grade level texts significantly improves grade-level passage reading fluency rate. In 1998, The National Research Council reported that this type of reading practice reinforces decoding and word-level reading skills in authentic connected text, allowing students to develop the fluency required to construct meaning from texts. Supporting this idea, Tan & Nicholson (1997) concurred that practice in reading single words and practice in reading words in context have both been found to increase reading rate for new passages containing the practiced words.
Peer-Assisted Learning Strategies

Research in elementary grades shows that children's reading competence improves when they work with each other in a cooperative and structured manner (Rosenshine & Meister, 1994). One way of accomplishing this is through Peer-Assisted Learning Strategies (PALS), in which children work together to support each other's learning (Fuchs & Fuchs, 2005).

Fuchs & Fuchs (2005) reported that the general goal of PALS is to strengthen a teacher's capacity to meet the academic needs of a broad range of children. Its focus at grades 2-6 is the development of reading fluency and comprehension. Teachers can differentiate instruction for students at different skill levels by varying the difficulty of reading material, increasing the degree of structure for some pairs, or varying the pace with which pairs proceed through lessons. Every section includes three PALS activities: partner reading, paragraph shrinking, and prediction relay.

First, teachers implement three 35-minute sessions each week with all children in the class. Teachers then train students to implement PALS in seven 45-minute to 60-minute intervals. Students are paired so that each pair includes a high and low performer. Tutoring roles are reciprocal, but the higher performing student reads first for each activity to model desired performance. Material is read that is appropriate for the lower reader. Each pair is also assigned to one of two teams for which they can earn points based on completing activities correctly and for exhibiting good tutoring behavior. Every four weeks new pairs and teams are assigned. The PALS motivational system combines competitive and cooperative structures.

Compared with conventional instruction (no-PALS), Fuchs & Fuchs (2005) found that PALS students improved more in reading, and their superior growth was not mediated by student type. PALS is a means of transforming knowledge about reading instruction, developed in highly controlled and artificial contexts, into routines and programs that real teachers in real schools can implement. After a 10-week intervention, Mathes & Fuchs (1993) found that class wide peer tutoring positively
influenced reading fluency more than typical reading instruction. Peer tutoring may provide students with more opportunities to practice reading aloud along with other activities that are related to building fluency.

Readers Theater

The Readers Theater is an activity in which learners repeatedly read manageable text based on a story in preparation for an eventual oral reading performance (Keehn, 2003). Martinez, Roser, and Strecker (1999) maintain that Readers Theater presents repeated reading in a motivational context. Additionally, the researchers reported that there is empirical evidence that Readers Theater promotes gains in oral reading fluency, as well as growth in overall reading proficiency.

Keehn’s (2003) study of second grade students replicated other findings that Readers Theater is a viable vehicle to enhance oral reading fluency. In her study, second grade students at all levels of reading ability made significant gains in rate, phrasing, fluidity, and expressiveness, as well as in comprehension and word recognition measures. When given explicit instruction in fluency coupled with Readers Theater, there was no addition of students’ growth in oral reading fluency. This finding suggests that rereading in text that fits is the critical factor in fluency improvement. Also in this study, it was noted that there was a transfer of fluency from practiced text to unrehearsed text in the sixth and seventh week of Readers Theater. Therefore, it may be necessary for instructional intervention aimed at fostering oral reading fluency to be implemented for six to eight weeks if transfer is to be made to unfamiliar texts. Readers Theater appears to serve as a motivational tool for fluency practice and improvement, as found in Keehn’s (2003) study, because students’ interest was sustained over nine weeks of implementation.

Key Words and Previewing

Rousseau & Tam (1991) define discussion of key words as the discussion of the meanings of key words from the reading passage prior to reading the passage aloud. An alternative is listening-previewing, or
any method that provides an opportunity for a learner to read or listen to a selection or passage prior to instruction and/or testing (Daly & Martens, 1994). Rousseau and Tam (1991) found that discussion of key words and listening-previewing when presented together were more effective than either treatment presented alone with language minority students with speech and language deficits. Previewing reading material has been shown to increase oral reading proficiency among low achieving students (Sachs, 1984), and discussion of key words is also effective in increasing both factual and inferential reading comprehension because readers are provide with relevant prior knowledge of the subject (Rousseau, Tam, & Ramnarain, 1993).

Theoretical Frame, Research Problem, and Methodology

Theoretical Frame

The topic of fluency can be framed from multiple, theoretical perspectives (Tracey & Morrow, 2006). One of the most relevant is the Automatic Information Processing Model (LaBerge & Samuels, 1974). This model suggests that there are five major components in the reading process: visual memory, phonological memory, episodic memory, semantic memory, and attention. Of these, it is the concept of internal attention that is most relevant to this discussion. LaBerge and Samuels suggested that all readers have a limited amount of internal attention, therefore, if too much internal attention is used on lower level processing (visual and phonological processing) there will not be enough left to conduct higher level processing (e.g. construct and comprehend the meaning of the text). Fluency can be viewed as a reflection of a reader's lower level processing ability. The LaBerge and Samuels model suggests that comprehension will improve as fluency improves.

Research Problem

While many studies have investigated the effectiveness of a single fluency intervention on students' reading (Kuhn & Stahl, 2003), a thorough literature review has not yielded research that examines the effects of multiple combined fluency interventions on students' reading performance. This omission is significant because in real-life classrooms teachers may be more inclined to use multiple approaches when working
with students than to limit their instruction to one specific strategy. In fact, the use of multiple strategies to improve fluency may prove to be more effective and more motivating than the use of a single instructional approach, as has been found in studies of interventions designed to facilitate vocabulary achievement (Burns, Roe, & Ross, 1999). Thus, the purpose of the present investigation was to examine the effect of combined fluency interventions on student reading.

Methodology

The present study uses a single-subject, baseline methodology. In this methodology, a baseline for a target behavior, in this case reading fluency, is established prior to the onset of an intervention. Baseline performance is graphed, and then graphing continues during the intervention phase. The impact of an intervention is assessed by comparing a subject’s baseline performance with his/her performance during and after intervention. Single-subject research has been viewed as a valuable approach when working with remedial readers (Neuman & McCormick, 1995). Furthermore, the use of base-line and multiple base-line designs has been found appropriate for studies of repeated and assisted reading because these techniques were designed for use with clinical populations (Kuhn & Stahl, 2003).

Subject

The subject for this study, “Susanne,” is an 8-year, 7-month old Caucasian female who attends a public elementary school in an upper-middle class suburban community in the northeastern United States. Concerns were first noted in grade two when Susanne was recommended for and received both Instructional Review services in Reading and small group instruction from the Reading Specialist. The intervention consisted of various reading strategies to improve overall reading skills. She was also recommended for and attended summer school to strengthen her reading skills for four weeks, one hour each day, between grades two and three. At the time of the intervention she received small group instruction only from the Reading Specialist at her school one time per week for 45 minutes. She was recommended for Instructional Review services in third grade, but opted to receive private tutoring at her home one
afternoon a week for one hour instead in order to bolster her reading skills.

Susanne was chosen for the current study because she had difficulty reading fluently. Her oral reading lacked expression, appropriate phrasing, and pause structures. She also struggled with reading phrases and sentences automatically and rapidly, making oral reading slow and disconnected. In order to improve Susanne's reading prosody, specific fluency strategies were modeled, practiced, and reinforced.

Materials

The Writing and Reading Assessment Profile (W.R.A.P.) (Learning Media Limited, 2001), a commercial running record assessment tool, was administered in order to determine the subject's independent reading level. Independent level reading passages from the book *Horrible Harry at Halloween* by Suzy Kline (Scholastic Inc., 2000) and *Sable* by Karen Hesse (Scholastic Inc., 1994) were used to establish a reading fluency baseline measure. Fluency interventions were conducted using the books *Horrible Harry and the Kickball Wedding* by Suzy Kline (Scholastic Inc., 1992), *Song Lee and the Hamster Hunt* by Suzy Kline (Puffin Books, 1994), and *Horrible Harry in Room 2B* by Suzy Kline (Scholastic Inc., 1988). Other books used were *Yo? Yes!* by Christopher Raschka (Orchard Books, 1993) and *Piggie Pie!* by Margie Palatini (Clarion Books, 1997). The phrase-cued passage, *Pass It On*, by Bill E. Neder (Scholastic Inc., 2000) was also used for instruction. Audiobooks used were *Blueberries for Sal* by Robert McCloskey (Scholastic Inc., 1976), *Miss Nelson is Missing* by Harry Allard (Schoastic Inc., 1977) and *The Story About Ping* by Marjorie Flack and Kurt Wiese (Puffin Books, 1977). A final reading was conducted using the book *Horrible Harry Goes to Sea* by Suzy Kline (Scholastic Inc., 2001).

Procedure

The W.R.A.P. assessment (Learning Media Limited, 2001) was first administered to establish the Susanne independent reading level. Once this level was determined, the student was asked to read aloud passages from two independent level texts in order to establish a baseline for the
number of words read correctly in one minute (WCPM). Different
passages at this reading level were read to establish data stability of
WCPM. Once stability was gained, fluency interventions began.

Beginning in January, sessions were conducted two to three times
per week for eight weeks. Each session was 20-30 minutes. Session one
began on January 23, 2006. This session focused on echo reading a
passage from *Horrible Harry and the Kickball Wedding*. An emphasis
was placed on expression and reading to punctuation. After two
repetitions of echo reading the same portion, Susanne read the same
section independently to establish WCPM.

The second session consisted of the same instruction using a
passage from *Song Lee and the Hamster Hunt*. Again, after two
repetitions of echo reading, Susanne read the same passage
independently and WCPM was attained. In addition, she was timed
reading an unfamiliar portion of the same text.

During the third session, Susanne listened to a book on tape,
*Blueberries for Sal*. After each page, the tape was stopped and she re-
read the section, attempting to use the same phrasing and pace as the
narrator. An unfamiliar passage from *Horrible Harry and the Kickball
Wedding* was then read and timed.

The fourth session consisted of a repeated reading from *Horrible
Harry and the Kickball Wedding*. Susanne practiced reading a segment
of text and was then timed for one minute. She continued to practice
reading the same passage and WCPM were noted each time. This was
repeated a total of four times. Finally, she was timed reading an
unfamiliar passage from the same text.

Session five again included the Susanne listening to a book on tape,
*Miss Nelson is Missing*, and periodically re-reading a portion of the
passage. After she listened to the book and repeated parts of the text,
focusing on the narrator's phrasing and pace, she was recorded reading
the story. After, Susanne listened to the recording of herself on tape and
the expression of the narrator versus her expression was discussed. She
was then timed reading a portion of the familiar text, as well as an unfamiliar passage from *Horrible Harry and the Kickball Wedding*.

Session six involved teacher modeling of intonation. The book *Yo? Yes!* was first read aloud to Susanne to illustrate correct expression and intonation. She then practiced reading the same text with expression. A timed reading was conducted using unfamiliar text from *Horrible Harry and the Kickball Wedding*.

The next session consisted of choral reading. Susanne was timed reading an unfamiliar portion of *Horrible Harry in Room 2B* before the choral reading practice. After the reading practice, familiar text was read and timed.

Session eight consisted of teacher modeling of phrasing using the book *Horrible Harry and the Kickball Wedding* to exemplify this. The strategy of chunking text when reading was discussed. Susanne practiced using this technique and was then timed reading an unfamiliar passage from the same text.

The ninth session was a repeated reading, as conducted in session four. The same text, but different passage, was used. Susanne again practiced reading a segment of text and was timed for one minute, for a total of five times. Following this, she was timed reading an unfamiliar passage from the same text.

During session ten, the student was instructed on phrase-cued reading, or reading in phrases. A marked passage, *Pass It On*, was given that visually illustrated phrases broken into parts. Susanne was taught how to read with appropriate phrasing and then practiced reading using this strategy. An unfamiliar text from *Horrible Harry and the Kickball Wedding* was read to establish WCPM.

The next session also included modeling, but focused on pausing at commas using the book *Sable* to demonstrate this. Once Susanne practiced with this text, WCPM were established using an unfamiliar portion of *Horrible Harry and the Kickball Wedding*. 
Session twelve included modeling using the book *Piggie Pie*. Fluency was modeled and practiced with no timings.

The last session included audio book modeling, as in sessions three and five. Before listening to the tape, Susanne was timed to determine WCPM using unfamiliar text from *The Story About Ping*. She listened to this book on tape and stopped after each page to practice reading after hearing the narrator’s modeling. After listening to the book, a discussion was held about the speed, intonation and pausing of the narrator. Susanne was then timed reading the same, now familiar, section of the book.

At the end of the eight-week period, the student read an unfamiliar passage from *Horrible Harry Goes to Sea* to determine final WCPM. This number was then compared to the baseline established at the beginning of the evaluation.

**Results**

The results for this study are presented in Figure 1. Susanne’s WCPM on all readings following interventions exceeded her baseline WCPM performances.

**Discussion**

The purpose of this study was to examine the effectiveness of multiple fluency interventions on a single subject. Multiple fluency interventions were implemented over a period of 8 weeks. Each session lasted for 20-30 minutes, and occurred 2-3 times per week. The key finding of this study is that working independently with a child on multiple fluency strategies while using manageable text increases a child’s overall reading skills in this area.

One of the most important findings of this study was the importance of manageable reading materials. Current research indicates that by controlling the reading level of materials, children are exposed to high-frequency words, word patterns, and vocabulary more often, which can lead to improved fluency (O’Connor, et al., 2002). Texts for this study
were selected based on Susanne’s independent reading level. Once this level was established, reading materials were chosen at a level slightly easier to allow for the application of strategies to be acquired.

Figure 1. Baseline and Comparison

Several researchers have found repeated reading of text to be one of the most effective methods for developing fluent reading (Mercer, Campbell, Miller, Mercer, & Lane, 2000). This was also true with Susanne. Her reading fluency improved tremendously as text was read repeatedly. Dowhower (1989) concluded that the outcome of repeated
reading is an increase in rate and accuracy, which subsequently transfers to new texts. Similarly, when given unfamiliar text immediately following repeated reading, there was a significant increase in the number of words read correctly per one minute intervals relative to the data collected in the baseline.

With regard to choral reading, unlike previous research, which examined poetry and simple motions with a group of students, this study used only passages from text with a single subject. Students who were exposed to poetry had higher rates of oral reading than their matched peers (Rasinski, Padak, Linek, & Sturtevant, 1994). It is possible that if Susanne were placed with a group of students and provided with poetry, as in the above study, she too would have had an increase in fluency. However, choral reading was still an effective method when used individually and Susanne benefited from this strategy as well.

This fluency study extends current research by including both echo reading and audio book modeling. Currently there is a limited amount of research in these areas. After both activities, unfamiliar text is introduced to determine the amount of words read correctly per minute. In the present study, in both cases, there was an increase in reading fluency in comparison to the fluency baselines. Therefore, the current study found these two strategies to be promising.

Working one-on-one with Susanne appeared to be very motivating for her. She enjoyed the individualized attention and looked forward to seeing her progress each session. She responded well to the strategies provided, and the end results of the eight week period supported this. Both Susanne’s parents and teacher have seen improvements, and Susanne has verbalized that she is using the strategies she learned.

While Susanne’s fluency did improve over the course of eight weeks, there are some additional factors worth noting. For one, sessions were held immediately after school, which did not allow Susanne a chance to have a snack or release energy by engaging in play activities. Extending a student’s work day without the opportunity for such “breaks” most likely increases fatigue and affects the ability to focus. In addition, the research environment was not representative of everyday
learning. Susanne's sessions occurred after school in a quiet room with no outside distractions, a setting very different from a typical classroom environment, in which background noise and peer activity can often impact students' focus and attention, thus potentially impeding progress.

Most obvious from this present study is that the use of multiple fluency interventions appear to be positively associated with an individual student's reading fluency performance. While it is impossible to determine from this study if any one strategy was more effective than another in helping to improve Susanne's oral reading, it is fair to argue that providing multiple fluency interventions appeared to be associated with her improved reading performance. Thus, the successful gains made by the individual subject documented in this study support and extend the earlier research in the area of fluency.

References


Multiple Fluency Interventions


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Children's Literature References


