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AUTHOR	Seago-Tufaro, Cynthia
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ABSTRACT

This study's purpose was to determine if the amount of time spent reading independently at home and at school correlated with oral reading fluency and comprehension. Fifteen heterogeneously grouped second graders logged the amount of minutes they read independently over a 12-week period. The students were pre- and post-tested using the Woodcock Johnson Reading Mastery Test, a word per minute count of students' independent reading levels, and an oral reading fluency rubric. A Pearson product-moment correlation coefficient revealed no significant correlations with minutes spent reading independently and test results, except a negative correlation between at home reading and words-per-minute count. Implications and discussion of findings are presented. Appendixes contain a prosodic fluency chart, a reading at school log, and a leisure reading log. (Contains 42 references and 1 table.) (Author/RS)

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The Effects of Independent Reading on Oral Reading Fluency and Comprehension

Cynthia Seago-Tufaro

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The Effects of Independent Reading on Oral Reading Fluency and Comprehension

Abstract

This study's purpose was to determine if the amount of time spent reading independently at home and at school correlated with oral reading fluency and comprehension. Fifteen heterogeneously grouped second graders logged the amount of minutes they read independently over a 12-week period. The students were pre- and post-tested using the Woodcock Johnson Reading Mastery Test, a word per minute count of students' independent reading levels, and an oral reading fluency rubric. A Pearson product-moment correlation coefficient revealed no significant correlations with minutes spent reading independently and test results, except a negative correlation between at home reading and wpm count. Implications and discussion of findings are presented.

Definition of Fluency

A hallmark of children who have difficulty reading is a lack of fluency (Klenk & Kibby, 2000). Fluency is reading smoothly, without hesitation and with accuracy. However, fluency is more than just accurate and fast word recognition. It can be defined as the ability to project the natural pitch, stress and juncture of the spoken word on written text, automatically and at a natural rate (Richards, 2000). The National Reading Panel (2000) describes fluency as "the ability to read a text quickly, accurately, and with proper expression" (chap. 3, p.5).

LaBerge and Samuels' term *automaticity* is often thought of as the same as fluency. Over the course of time, the terms automaticity and fluency have become interchangeable. The development of fluent automatic word recognition depends on many encounters with words (LaBerge & Samuels, 1974) with the most natural way for that to occur through extensive reading. The more a reader reads and improves fluency, the more comprehension should improve by increasing the cognitive capacity available for comprehension. This falls under the model of information processing, as does Perfetti's verbal efficiency model. Perfetti (1985) views fluency as verbal efficiency stating, "individual differences in comprehension are produced by individual differences in the efficient operation of local processes" (p.100).

Decoding is a bottleneck, as long as it is effortful, using up valuable capacity that could serve comprehension if reading of words were more fluent (Pressley, 2000). The theory underlying fluency is that while reading, a reader has only a limited amount of attention. If part of that attention is diverted from comprehension and understanding to word recognition, the result is limited reading fluency and comprehension. The more

effort required decoding a word, the less capacity is left over to comprehend it (LaBerge & Samuels, 1974).

Stanovich and Nathan (1991) hypothesized that fluency is a result of automatic decoding. Initially, children read word for word, which leads to a slow and laborious pace. The reader at this phase is mostly concentrating on decoding. As the child becomes more adept at decoding words, he or she can better focus on the meaning of the words. It is at this point that the reader is able to express prosodic information.

The Rauding Theory also connects fluency to comprehension. According to Carver (1991, 1997) as cited by Wolf & Katzir-Cohen (2001), most reading is done in the rauding mode. This is the fastest rate of reading an individual can understand complete thoughts in each sentence. This ties cognitive speed with reading fluency to four factors including age, teaching variables, aptitude factors and decoding speed.

The most recent model with implications for fluency is the connectionist model of reading. This model accentuates the interaction of phonological, orthographic, syntactic and semantic processing codes during word recognition (Wolf & Katzir-Cohen, 2001). There are no retrieval mechanisms, just codes. This theory accounts for internal factors such as learning, and external factors such as frequency and regularity. The theory is important to the design of reading fluency interventions because it includes linguistic elements among individual words such as frequency, regularity, and the amount of processing-code connections (Wolf & Katzir-Cohen, 2001).

Goods, Simmons & Kame'enui (2001) have created a model that forms a timeline of crucial reading skills and the fluency-based measures indicating acquisition of these key skills. Fluency in this case is used as a predictor of reading skills based on early

foundation skills. Its premise is to create benchmarks that specify when target levels of phonological awareness, alphabetic principle, and accuracy and fluency with connected text should be attained (Goods, Simmons & Kame'enui, 2001). The assessment's goal is also preventative. Fluency of early foundation skills, lower-level processes, is required for fluent performance of complex skills and higher-level processes.

Fluency achievement begins with Onset Recognition Fluency (awareness of initial sounds), and Phoneme Segmentation Fluency (phonological awareness) by spring of Kindergarten (Goods, Simmons & Kame'enui, 2001). At the end of first grade, Nonsense Word Fluency, which demonstrates knowledge of the alphabetic principle, should be achieved (Goods, Simmons & Kame'enui, 2001). Oral Reading Fluency is the ability to demonstrate accuracy and fluency with connected text, and is continually tracked from that point for target levels at each grade (Goods, Simmons & Kame'enui, 2001). It was concluded that first grade outcomes were strongly predictive of continued progress in second grade outcomes (Goods, Simmons & Kame'enui, 2001). Therefore, fluency of foundational skills can be linked to later reading outcomes (Goods, Simmons & Kame'enui, 2001). This implies that fluency of sub-skills has an important influence on oral reading fluency.

Thus, as has been shown, one of the difficulties of investigating reading fluency is that the definition lacks consensus.

Who are Fluent Readers?

There are three things that lead to fluency. First, the pace is the rate aspect of fluency. Second, smoothness is achieved by automatic word recognition. And third, reading with expression is achieved through phrasing or prosody (Richards, 2000).

Those who become fluent readers do so because they are given more opportunities to read, so they further develop this skill. Readers who read fluently are often reading texts that are at their instructional level. When less effort is put into decoding during reading, there is more short-term capacity for comprehension of text (LaBerge & Samuels, 1974). Dysfluent readers are often reading texts that are at their frustrational level. Children who have models of fluent oral reading at home learn that fluent oral reading is the goal when reading aloud. The ultimate goal is not solely accuracy, but also meaningful expression. Poor readers end up focusing solely on word recognition, phonics and other skills in isolation (Richards, 2000).

Dysfluency

Reading accuracy requires speed and precision in reading. However, fluency is achieved when all components of reading develop speed in processing. Adding to that is an ability to anticipate, or anticipatory facilitation, for reading to become fluent (Wolf & Katzir-Cohen, 2001).

Impairment in any one or more of the underlying processes could increase the processing time both within that process and in reading outcome behaviors. This may be based on the integration of information across processes. If a discrepancy is present between the speed of visual and auditory processes, inefficient integration necessary for visual-verbal processes occurs during oral reading (Breznitz, in press in Wolf & Katzir-Cohen, 2001).

Meyer and Felton (1999) as reported by Wolf and Katzir-Cohen (2001) found three major areas of dysfluency. A dysfluent reader may be undergoing a breakdown in phonological or orthographic processing slowing the speed of perceptual processing. The

second area could occur after perceptual information has been gathered. The student fails to connect higher order semantic and phonological connections between words, meaning and ideas (Adams, 1990). The third area is a lack of prosody and rhythm due to a breakdown in syntactic processing.

Fluency and Assessment

Oral reading fluency is the most significant characteristic of skillful reading (Adams, 1990 in Fuchs, et al., 2001). However, its use by teachers and researchers seems limited (Adams, 1990 in Fuchs, et al., 2001).

Seventy middle school and junior high school students' Stanford Achievement Test results were compared to question answering, passage recall, cloze and oral reading fluency. The results identified the highest correlation between oral reading fluency and the Reading Comprehension subtest of the Stanford Achievement Test (Fuchs, Fuchs, Hosp & Jenkins, 2001). These results reveal the potential for oral reading fluency to be used as an indicator of overall reading competence even though the oral reading fluency assessment did not require the students to understand what they were reading (Fuchs, Fuchs, Hosp & Jenkins, 2001).

Also supporting the conclusion that oral reading fluency is an indicator of overall reading competency is the comparison of results between list fluency and text fluency. A text fluency assessment had a higher correlation with the Iowa test than a list fluency assessment. This reflects that other subcomponents of reading beyond the word level can also become automatized (Perfetti, 1995 in Fuchs et al., 2001).

The use of Curriculum Based Measurement (CBM) as an assessment can also be used to gather quantitative information about a reader (Fuchs et al., 2001). Recording the

student's decoding errors such as semantic, syntactic or graphic will reflect informative descriptions about how a student reads. However, assessing prosodic reading is much harder to index (Fuchs et al., 2001), and it is recommended that more research is needed to analyze the relation between reading expression and oral reading fluency.

The makeup of the text should be considered when conducting oral reading fluency assessment. It is important to decide the level of text (instructional, independent, or frustrational) used to measure competence. Schools might want to use a preset level of difficulty across the grade to maintain constancy. The type of text, narrative or expository can influence the affects of oral reading fluency (Fuchs et al., 2001).

A Classroom Fluency Snapshot (CFS) is an easy -to-use tool that gives teachers a starting point for looking at a class (Blachowicz, Cieply & Sullivan, 2001). It displays the performance of all children in a particular class or group on a one-minute reading of the same piece of text. Its goal is to identify students who may need special support, help select independent reading material, chart progress of fluency over the year, and develop a quick sense of the class baseline. It is conducted much like CBM, in which a student reads for one minute as the teacher records miscues. The teacher determines the modifications or special needs of the students, whether it is providing more time for grade-level material or offering more challenging material.

Interventions

Research has been performed to find ways to increase reading fluency since a reciprocal relationship exists between fluency and comprehension. There are several successful interventions that will increase fluency. The following interventions, which will be explained in depth, include the use of specific strategies, repeated readings, peer

tutoring, previewing and phonological processing as ways to improve fluency. By increasing fluency, it is believed that increased comprehension will follow.

Strategies

Specific strategies are principles that students need to acquire related to how sounds map to letters and words. Strategies can also be tools to recognize and repair comprehension problems while reading. The reader learns to monitor him or herself during the process of reading.

An example of this is collaborative strategic reading (CSR) (Vaughn et al., 2000). Students in Vaughn's study were taught four reading strategies that students apply before, (preview), during, (click and clunk, get the gist), and after reading, (wrap up). During click and clunk, students read aloud and are given strategies on cards to use if something doesn't make sense during reading. Typically, good readers reread text in an attempt to understand phrases and to experiment (Richards, 2000). This strategy is guiding the reader to reread to make sense, something a fluent reader already knows how to do.

In a similar study performed by Allinder et al. (2000), seventh graders were given bookmarks prior to reading with specific fluency strategies to use. It appears that the specific cue given to students is important, such as "pause at periods". This might be more beneficial than generic cues such as "read well". The students who used a specific oral reading fluency strategy performed better on the maze task, a significant finding since it is a test of general reading ability and supports the fact that fluency and comprehension are closely related.

Reading Recovery

Reading Recovery is an early intervention literacy program for at risk readers. Students work one-on-one with a specially trained Reading Recovery teacher for 30 minutes daily for 12-16 weeks. It is often viewed as one of the most successful early intervention programs (Faires et al., 2000). Students are taught self-monitoring techniques with a goal of self-correcting errors. Reading Recovery attempts to accelerate the progress of children reading at the lowest levels on literacy tasks.

Denton (1997) conducted a study to see if Reading Recovery students' needs were met. She found that the program did meet some of its goals such as improving students' reading level and accelerating their rate of growth. Students in the RR program assessed by words read correctly per minute, improved their accuracy from 57 percent in January, to 84 percent by May. Also worth reporting is that dismissed RR students answered 88 percent of comprehension questions correctly, an increase of 22 percent. This reflects that students could accurately read and comprehend at an instructional level as compared to a frustrational level (Denton, 1997). However, using an Informal Reading Inventory to assess oral reading fluency, Denton found that RR students did not perform as well as students who had no intervention.

The lack of fluency by RR students may be a result of the type of reading strategies taught. Self-monitoring techniques that produce self-correction of errors leads to repetition of words or phrases that do not sound right, look right or make sense to the reader. Reading Recovery promotes accurate reading, but does not foster fluent reading of unfamiliar text (Denton, 1997). The Reading Recovery program includes fluency as a goal and defines it as phrased expressive reading, rather than overall reading rate (Clay,

1993). RR students will become more fluent as they become more competent, accurate readers who make fewer errors and repetitions.

Repeated Readings

Fluency training can also take place during repeated readings. Gains were made in word recognition, reading rate, and comprehension through repeated readings of one text and transferred to passages unfamiliar to the reader (Rasinski & Padak, 1994). Repeated reading also helps children to further understand the phrasing of the text. Richards (2000) suggests three ways to provide repeated reading experiences in the classroom including direct instruction, an independent learning approach, or cooperative repeated reading.

Direct instruction takes place when the teacher models fluent reading of the selected passage then discusses vocabulary and content. The class then practices the text as a whole group, focusing on the prosodic cues. An example of this is shared reading in which Big Books are frequently used, or choral reading of poetry. Many lessons include five repeated readings of a text later followed by independent practice in which students are given copies to read on their own. There are two studies that support this theory. O'Shea, Sindlear and Monda (1990) found three repeated readings improved fluency for students with and without reading disabilities. Dowhower (1987) found increased fluency when subsequent passages contained overlapping words (Mastropieri, Leinart &Scruggs, 1999).

Independent learning can take place in the classroom for children to practice reading orally. They can use a tape recorder with a book and tape while they simultaneously read orally. An example of cooperative repeated reading is paired oral

readings. Students work in pairs in taking turns reading the passage three times orally, in succession to the other student. The listening student takes on the role of the teacher giving suggestions and positive feedback. All of these experiences whether direct, cooperative, or independent give students further practice with prosodic cues, automaticity and pace.

A. Fluency Development Lesson

A model of fluency instruction that can be integrated into a classroom is Rasinski & Padak's Fluency Development Lessons (FDL). It is a 10- to 15-minute lesson that incorporates several key principles of effective fluency instruction. These principles include modeling fluent reading for students, direct instruction and feedback in fluency, providing support for the reader while reading (choral reading), repeated readings of the text, cueing phrase boundaries in texts, and providing students with easy materials for reading. The seven steps of FDL lead students through teacher modeling of 50- to 150-word text that is relevant to classroom themes, whole class choral reading, partner reading, repeated reading, performance of the text in small groups and individual practice. The FDL was used daily and resulted in substantial improvement in reading rate of second graders (Rasinski & Padak, 1994).

B. Read Naturally

Read Naturally is a strategy designed to improve reading fluency that combines repeated readings, reading from a model, and progress monitoring. Most of the activities are self-directed by the students and are useful in multilevel settings. The four-step program begins with a cold reading of an unpracticed passage, which is timed and marked for problem words. The result is graphed. The student then practices the material

3-4 times along with an audio taped model while they read along. When the student feels comfortable he or she reads the text independently and times his or her reading at the third step. Finally, at step four, the teacher times the student's reading and the student tries to meet the word count per minute goal and make three or fewer errors. The final results are graphed and compared. After 12 stories the student moves up to the next level.

Second and third grade Title I students who participated in this program for a year made a gain of 1.68 wcpm/week which exceeds the typical goal for reading performance improvement of 1.5 as defined by Fuchs et al. in 1993 (Hasbrouck, Ihnot & Rogers, 1999). These gains are significant also because there is little evidence of remedial readers improving their reading skills in Title I programs (Allington, 1987, in Hasbrouk, Ihnot & Rogers, 1999).

Peer Tutoring

The peer tutoring approach pairs one half of students who are engaged in reading, while the other half actively monitors their performance. A study conducted by Vaughn et al. (2000) paired a stronger reader with a less able student. The students took turns reading for three minutes, the high-level student modeling then using correction procedures to help the low level student to decode. The procedure was repeated for one minute and the number of words read was charted. Students in the study made gains in reading rate.

Fuchs, Fuchs & Kazdan (1999) knew that classwide peer tutoring had substantial reading improvements for elementary aged children in past studies. However, no prior studies were conducted on the secondary level involving peer tutoring. They studied high school peer tutoring to see if it would have similar effects. PALS (peer-assisted learning

strategies) involved partner reading, paragraph shrinking and prediction relay. Students reading comprehension improved significantly, but reading fluency failed to improve. It is possible that students lacked peer models in homogenously grouped settings and needed more time on oral reading activities.

Overall, peer tutoring may provide students with more opportunities to practice reading aloud along with other activities that are related to building fluency (Mastropieri, Leinart & Scruggs, 1999)

Previewing

Previewing is another activity that improves reading fluency. This is an intervention in which text material is pre-exposed prior to formal reading. Pre-exposure can include listening to the teacher previewing the material so that the student gains exposure to vocabulary, phrasing and emphasis before reading the text him or herself. Previewing text may make it simpler to anticipate and predict more difficult words. (Mastropieri, Leinart & Scruggs, 1999)

Vaughn et al. (2000) used this strategy during the CSR intervention. First students were given a couple of minutes to discuss what they knew about the topic with their partner, followed by the whole class sharing their ideas. Second, students took a few minutes to review the text to be read by examining text features such as illustrations and headings. As mentioned earlier, this study found increases in fluency through CSR intervention.

The RAVE-O fluency based reading intervention program by Wolf, Miller and Donnelly (2000) previews core words that are part of text to be read by emphasizing the semantic component. Word webs are used to increase children's understanding of

semantic connections and contribute directly to comprehension. This combats dysfluency by preparing readers to process alternative meanings to words when they come across them in future reading. After this previewing technique, minute stories are read that focus on that particular week's core words.

Results from 200 second and third grade students who participated in the RAVE-O program showed increases in word attack, word identification, oral reading rate and accuracy, and passage comprehension. A developmental-componential approach to fluency intervention can improve reading rate (Wolf & Katzir-Cohen, 2001).

Phonological Processing

Children at risk for reading failure have difficulty understanding the "alphabetic principle" – the concept that sounds of speech map onto letters of the alphabet. Knowledge of the alphabetic principle enables a child to develop word recognition, reading fluency, and reading comprehension skills. Mastery of these skills will lead to less consuming and more enjoyable reading (O'Shaughnessy & Swanson, 2000).

Wolf, Miller and Donnelly (2000) state deficits in processes underlying naming speed of alphanumeric stimuli also affect processing speed in naming and word recognition. Therefore, the lower level requirements necessary for fluent word recognition in turn affects reading comprehension. Part of the goal of the RAVE-O fluency intervention reading program is also to increase processing speed of underlying sublexical components such as left-to-right scanning, letter recognition and orthographic pattern recognition. A computer as a tool can be used effectively to provide practice that builds reading fluency (Mastropieri, Leinart, Scruggs, 1999). The RAVE-O program designed a computer game specifically aimed at improving orthographic pattern

recognition through activities that make the reader discriminate between similar sublexical patterns.

A study conducted by O'Shaughnessy and Swanson (2000) compared the effectiveness of two different interventions: PAT (phonological awareness training) and WAT (word analogy training). PAT instruction is decontextualized. The smallest units of individual phonemes are taught through rhyming, sound blending, sound segmenting and reading and spelling activities. WAT instruction is based on a decoding program developed at the Benchmark School. It teaches word identification by analogy or the compare and contrast strategy. The results found that phonologically based approaches and whole word methods are both effective ways to improve word recognition skills. Growth in oral reading speed and accuracy was observed using curriculum based measurements. These studies prove that the aforementioned interventions used to develop reading fluency will also have an effect on fluency.

High Frequency Word Practice

Expert readers are able to read words in large units rapidly (Mercer, et al., 2000). Fifty percent of the words that children encounter (about 100 words) are seen in their daily reading material. These high frequency words need to be learned and retrieved rapidly.

Many studies look at fluency of passage reading. Levy (1999), on the contrary, conducted a systematic study that compared sublexical reading rates and found little difference between single-word and connected-text repeated readings (Wolf & Katzir-Cohen, 2001). Gains in word reading rate, if practiced in conjunction with intense interventions, can result in expanded sight vocabulary for children. Building sight

vocabulary can close the gap between average and good readers. Tan and Nicholson (1997) found that improving the speed at which 7- to 10- year olds read words, improved their comprehension (Wolf & Katzir-Cohen, 2001).

Fasko (1996), using a flashcard method to improve sight vocabulary, found increases in fluency and reading rate. After 36 sessions, student one improved from 19 words per minute to 69 words per minute. Dowhower (1989) found that when sight vocabulary practiced with flashcards was read in passages containing a high number of sight vocabulary, the result was increased speed, accuracy and fluency.

Readers' Theater

Readers' theater is the adaptation of short stories, other text, or student written plays to script form. There are no elaborate costumes and lines do not have to be memorized. The students read from the script, focusing their energies on interpreting and sharing their understanding of a character through appropriate intonation and oral expression. The teacher can include instructional practices into the activity by discussing characters, setting and by encouraging students to confirm and refute predictions. Rereading will occur during the course of preparing for the performance. Readers' theater can be a viable and effective means of motivating children to read a text several times and thereby reap the proven benefits of the repeated reading strategy (Chard, D.J. & Tyler, B., 2000). Studies by Hoyt (1992) and Flennoy (1992) as cited in McMaster (1998), found increased fluency when low achieving first graders and Chapter 1 third grade students participated in Readers' Theatre.

Rinehart (1999) reports that Readers' Theater is unique because "it offers an integrated language event with authentic communication purpose" (p. 87). His research

also concluded that comprehension improved. Students' retellings and answers improved over the course of the study seemingly because they did not need to allocate as many resources to decoding (Rinehart and Millin, 1999). Research conducted by Rinehart (1999) found that even beginning readers could read at higher levels of fluency on targeted text. Students demonstrated not only accurate, but expressive reading. This is an indicator of higher levels of oral reading as represented in the reading model cited earlier by Goods, Simmons and Kame'enui (2001). Comparing pre-test and post-test scores of second grade Title I students and a control group resulted in greater gains for those students who started with less oral reading ability and participated in Readers' Theater (Rinehart and Millin, 1999). Another positive outcome was the increase in students' confidence levels.

Demonstration and Modeling

Modeling fluent reading is a feature that many talking book CD-ROMs offer. Stories come to life as they are presented. Expressive text narration and animated stories dance across the screen. Using the computer as an effective tool in the classroom can build students' oral reading fluency through a repeated reading effect. The computer's support builds readers' confidence and abilities.

Four suggestions for using the talking book to develop comprehension and fluency are suggested (Labbo,2000). Children can read aloud with the story in a digital chorus. Labbo states that the reader is supported when reading new words or phrases. Echo reading is a form of reading in which the reader repeats words or phrases as they are read aloud helping him or her to recognize sight words in context. Support is given to students when they read first then listen. Students benefit from having immediate

feedback and check for accuracy. Some CD-ROMs help groups of students in a Readers' Theater format fostering expressive reading.

Using a computer should be considered an effective tool for improving students fluency and offering an alternative model of fluent oral reading. But if a human tutor is available, the ditto reading strategy is an example of reverse modeling that offers an exact demonstration of the reading behavior for the target child. Demonstration in this case is used as a mirror image, providing the child with the opportunity to see exactly what it is they're doing or in this case, not doing. Observations made by Gupta (2000) of a second grader who read in a flat, choppy tone proved using the ditto reading strategy helped the child. Following a reading by the tutor in a similar tone, the child became aware of why one should attempt to read aloud with expression. This model again offers a clear example of modeled reading's impact on fluent reading.

Family Literacy and Reading Fluency

Parents need to be considered partners in the learning process. The development and maturation of oral language is a major component of the early literacy process that occurs in the home. Prior to school, children have many experiences with print. Instruction at school therefore builds on the foundation for literacy learning established in the home (Faires et al., 2000).

In a study conducted by Faires et al. (2000), parents and students worked together at home to develop reading skills with "Books in a Bag". The school trained an experimental group of parents in the Reading Recovery model which included activities such as rereading two or more familiar books, using magnetic letters to identify letters, writing a sentence or a story, cutting-up a story, and introducing a new book. Five

instructional strategies were also taught to parents that would aid their child in determining an unknown word called the Helping Hand strategy. The students would bring the book in a bag home three nights a week. The post-test results based on running record assessments showed significant improvement in reading levels in the experimental group that used the Books in a Bag. The students who received the extra help from their parents raised their reading level when compared to the students who did not receive additional help at home (Faires et al., 2000).

The structured outline for improving children's reading is significant because the strategies used for Books in a Bag also mirror those same strategies that build readers' oral reading fluency; repeated reading, instruction of strategies, phonological training and previewing. Although the study does not look specifically at oral reading fluency, the use of running record assessment measures students' accuracy, a piece of the oral reading fluency puzzle. Because of the growth in students' accuracy, it also demonstrates improvement occurred in their oral reading fluency. It can be concluded that students who experience reading activities at home can become more accurate, fluent readers.

Classroom Application

Reading programs that do not attempt directly to enhance the reading fluency of dysfluent readers cannot be considered complete - - no amount of comprehension training can compensate for a slow, labored rate of reading (Mastropieri et al., 1999). Most popular basal reading programs do not foster reading fluency development in any planned and systematic manner. Few programs identify fluency as a major goal. Despite this neglect, the research on fluency has consistently demonstrated its importance (Rasinski &

Padak, 1994). Usually, the ultimate goal in the classroom is fluent, silent, independent reading (Richards, 2000).

Marie Carbo, the executive director of the National Reading Styles Institute, includes fluency as one of four key components of a reading program. Fluency enables children to concentrate on the meaning of what they're reading rather than on the process of figuring out words (Carbo, 1997). Students' reading fluency can be increased by reading interesting books that familiarize him or her with written language, writing student dictated stories, modeling choral reading and using recorded high interest text. The FDL is a key example of how to incorporate fluency lessons into the classroom because it can be effectively used to supplement a regular reading curriculum (Rasinski & Padak, 1994). A suggested program for use in a pull-out reading program is RAVE-O since it is an intense intervention that was meant for small group interaction (Wolf, Miller & Donnelly, 2000).

Oral Reading Opportunities in the Classroom

Oral reading fluency remains an essential aspect of reading. Young children need to hear themselves read. Students read orally to receive feedback from adult readers for monitoring. It is an acquired skill to show off (Richards, 2000). However, fluency instruction seems to be a mystery to teachers today because it is not the goal of reading series as is word recognition, vocabulary development and comprehension. Rasinski (1991) states the reason fluency instruction is not emphasized is because it is considered an "outcome" of goals "rather than a contributing factor".

In a study conducted by Chard and Kame'enui (2000), the mean time 65 first grade students received reading instruction was 42.23 minutes per day and was

characterized by word analysis, big-book related activities and the use of predictable text. Students were not receiving the reading opportunities needed. The frequency of oral reading occurrence was very low. Greater oral reading improvement was found in classrooms that provided more opportunities for oral reading in smaller instructional groups like Title I, in comparison to general education classrooms.

Overall, the average students' oral reading fluency improved slightly, about one correct word per minute every two weeks (Chard and Kameenui, 2000). This is not sufficient when compared with Fuchs et al.'s (1993) standard of 1.5 to 2 words per week for first graders. Variables like intensity and duration of instruction should be considered important elements of classroom reading if oral reading fluency improvement is to occur. Small sample sizes limited this study.

Fluency and Comprehension

Samuels (1999) states, "The ability to recognize words automatically is an important prerequisite for the reading tasks one faces as an adult because it allows the student to decode and comprehend the text simultaneously, thus reducing memory load and the effort required for reading,"(p. 188). As evidence suggests, students who decode automatically, will have good recall and read with expression. Accuracy is necessary for fluency, but when fluent reading is automatic, a reader can comprehend (Samuels, 1999).

The result and culmination of this research suggests that fluency instruction must be taught. Fluency is not the outcome of phonics, vocabulary instruction or comprehension practice alone. Fluency is a part of reading instruction that requires modeling of specific strategies, practice at mastering, and instructional time.

It takes several methods to achieve fluency. By working to improve a student's fluency, his or her comprehension will also likely improve. Several suggestions were made that can easily be added to existing curriculum to guide students' fluency instruction. Using text that is at a student's instructional level, paired reading, choral reading, previewing texts, repeated readings, instructing self-monitoring strategies, and developing phonological processing are all ways to develop fluency. The greatest influence is modeling, and the most frequently used of all the strategies.

Fluency and comprehension are achieved when a child reads a text that is at his or her independent reading level. The perfect text changes as children move from learning about print and how it works to decoding and reading text independently with fluency. If the text matches this point in a child's development, the teacher is better able to support students' reading progress (Brown, 2000). It is suggested previously that a reader should be reading text that is at his or her independent level or instructional level with guidance. There is also plenty of room for students to profit from listening to authentic literature and nonfiction read aloud and modeled for fluency of expression. Textual scaffolding for independent reading is critical, as well, because students will gain fluency in recognizing words and constructing meaning (Brown, 2000). Motivation will also be a factor.

Many studies document the relation between fluency and comprehension. Correlational research has shown that children who have difficulty comprehending also read text more slowly and recognize fewer words in isolation than do their more competent peers (Allinder, et al., 2001, Perfetti, 1985). Problems with reading fluency are correlated with students that have mild reading disabilities and other special needs. Mercer et al. (2000) states: "Given the power of fluency in helping students become

proficient readers and the condition that students with specific learning disabilities in reading are deficient in fluency, it is important that fluency training be used with these youngsters," (p.179).

To assess fluency, an oral reading test can be used because it requires the student to decode and comprehend at the same time. Therefore, it seems that an oral reading test is also an indicator of comprehension. Shinn and Good (1992) used curriculum-based measurement (CBM) to test students' oral reading fluency. The study attempts to prove that oral reading fluency is more than just decoding and that it can provide an adequate measure of comprehension skills through CBM. A variety of decisions were made about students' reading skills by counting the number of words read correctly per minute. The study concluded that a high correlation exists between oral reading fluency and reading comprehension. The only greater predictor of fluency and comprehension was a task that involved the cloze procedure.

Is fluency a result of good comprehension? Or is fluency what leads to comprehension? Those questions do not have answers yet, but it has been proven in numerous studies that reading comprehension and fluency correlate positively. The relationship between these two facets of reading should influence the way we teach and methods used for instruction. Teaching fluency is not a new idea, but it is a reading instruction component that is often neglected. It should be an integral part of any reading program that plans to improve a student's comprehension. It should also be a goal for parents helping their children become successful readers.

Nationally, there has been intense consciousness for the need of oral reading fluency instruction. U.S. Secretary of Education Rod Paige (2001) recently cited the

National Reading Panel in a speech made at the Annual Meeting of the International Reading Association:

> Fluent readers are able to read orally with speed, accuracy and proper expression. Fluency is one critical factor necessary for reading comprehension. Guided oral reading procedures from teachers, peers, or parents have a significant and positive impact on word recognition, fluency, and comprehension (p.2).

Mercer et al. (2000) found teaching subskills are tools for fluency. Fluency of subskills, such as letter-sound correspondence or word recognition, joins with other skills to execute more complex tasks. Since fluency helps students become proficient readers, it is important to train students with oral reading fluency skills using a combination of several possible interventions.

Effective teaching is not limited to one way or approach of instruction. Learners are not identical in the way that they learn. Thus, teachers cannot broach fluency instruction in one method alone. It is a combination of several successful interventions that build the readers speed, accuracy and expression resulting in improved comprehension.

How parents and teachers prepare children for reading fluency and comprehension as they encounter text independently needs to be addressed. Little research has been encountered in this area. Are independent reading and the selection of text factors that can improve oral reading fluency and comprehension? What types of reading strategies should be addressed to make the most of this valuable and often limited time? The same classroom interventions used by teachers, if mirrored at home, should

help young readers develop the oral reading abilities they need to become fluent readers who comprehend successfully.

Current Investigation

Based on the presented literature review, it was anticipated that the amount of independent reading in the classroom and at home would be correlated with oral reading fluency and reading comprehension.

Method

Participants

The participants of this investigation were a second grade class at John Marshall School in Edison, New Jersey. Edison is a middle class suburb of approximately 90,000 located in central New Jersey. The John Marshall Elementary School, one of ten elementary schools in the district, has approximately 400 students in grades kindergarten through fifth. It is primarily made up of apartment, condominium and townhouse dwellers. The school has a transient population, with a mobility rate of 20 percent, the highest in the school district. It is a culturally diverse population. 44 percent of the homes speak English, 25 percent speak various Indian dialects, ten percent speak Spanish, and 22 percent speak unspecified languages other than English at home.

The 22-second grade children -- seven boys and 15 girls – were grouped heterogeneously. They ranged in age from seven to eight. The ethnic composition of the sample group was 13 Asian, four Hispanic, three Caucasian and two African American. Six children in the class participated in the Title I Basic Skills program. Three children received free or reduced lunch.

The classroom teacher has taught for 27 years. She has a Master's degree in Elementary Education and has completed 15 additional graduate credits. She has taught second grade for 10 years. The data was collected by the school's reading specialist who has nine years teaching experience and 39 graduate credits.

Materials

The Informal Reading Inventory (5th edition) by Burns and Roe, published by Houghton Mifflin (1999) was used to assess oral reading fluency. The passages used to determine students independent reading levels in the IRI were selected because they fit the readability level for the grade using the Spache Readability Formula for preprimer through grade 3 and the Fry Readability Graph for grades 4 through 12 (Burns & Roe, 1999). A prosodic fluency rubric (Appendix A) was used to assess how the students read orally. The rubric was adapted from the National Assessment of Educational Progress Fluency Study which was field tested on 1,100 fourth grade students (Rasinski & Padak, 2001). It was found that fourth graders' reading proficiency could be significantly predicted when assessed on a version of this scale (Rasinski & Padak, 2001).

The Woodcock Reading Mastery Test-Revised by R.W. Woodcock (1987), forms G and H, was used to assess students' reading comprehension. The Woodcock Reading Mastery Test has a reliability coefficient of .97 and the standard errors of measurement of 2.8 for forms G + H of the Reading Comprehension Cluster, Grade 3 (Woodcock, 1987). The concurrent validity of the Woodcock Reading Mastery Test, Total Reading, with the Iowa Test of Basic Skills at a Grade 3 level is .83 (Woodcock, 1987).

Leisure Reading Logs (Appendix B) were used to record the number of minutes a student read independently. Students' take home reading logs were used to keep track of

their independent reading at home. Students also recorded time-spent reading independently in the classroom on Classroom Reading Logs (Appendix C). The Leisure Reading Contract was a form signed by the parent, child and teacher promising to read independently at home. This was sent home with the child in September and was kept on file by the teacher.

Procedures

Students were pre tested in oral reading fluency and reading comprehension. Using the Informal Reading Inventory, Fifth Edition, by Burns and Roe (1999), oral reading fluency was assessed. Students read a leveled sight word list. A decision was then made to determine which leveled story for the child to begin reading. Once an independent reading level was found, students' oral reading was timed and a running record was used to determine accuracy. A checklist to assess prosodic information was used. Students were then administered the Reading Comprehension component of the Woodcock Reading Mastery Test, Form G, which includes the Antonym Subtest, Synonym Subtest, Analogies Subtest and Passage Comprehension Subtest. All students were individually tested. The approximate time of each testing session was 30 minutes.

Students and parents have signed a contract committing to an agreed amount of minutes of daily independent reading. Students recorded their time spent reading leisurely, or independently, at home using a reading log. Students recorded the title of the book they read, the pages, and time spent reading. Parents initialed to verify. The log was returned to class every Monday for the teacher to record. This was collected, copied, minutes spent reading were tabulated and recorded weekly.

In school, students were given an independent reading log to be kept in a folder in their desk. This documented the time they spent reading independently. The log was collected weekly and time spent reading was recorded. A digital clock was put in the room for students to reference and record their beginning and ending time. Prior to the start of the program a short lesson was taught to students about what is independent reading and how to use the in-class reading log. The log documents the date and time they begin and end reading.

The school participated in a number of incentive programs such as the "Book It" and " Read to Succeed" program, which reward children for reading books. Quarterly throughout the school year, Pizza Hut incentives were provided to student who successfully achieve their independent reading goals. Free tickets to Great Adventure Theme Park were also rewarded to students who read in the spring a total of 600 minutes. The classroom teacher also rewarded the children who matched their independent reading goals with a free book.

Data was collected for 3 months. A posttest was administered to each student upon completion of the time span using Form H of the Woodcock Reading Mastery Test, Comprehension Component. Form B of the Informal Reading Inventory Houghton Mifflin was used to assess oral reading fluency. Each student's prosodic cues were assessed again as well.

Data Analysis

A gain score was used to determine each student's improvement in oral reading fluency and reading comprehension. Students' pretest and posttest scores of the Informal

Reading Inventory and Woodcock Reading Mastery Test were compared. Also, the students' prosodic reading fluency rubric scores were compared. Each child's wpm count was compared as well.

Student's personal data and scores were charted in a table that contains information about their sex, race, age, pre- and post test independent reading level, pre- and post test reading comprehension score, amount of minutes read at home, at-school independent reading minutes, total independent reading minutes, pre and post test wpm count, and prosodic rubric scores.

The information from the aforementioned assessments was used to determine if a correlation existed between the amount of time a student spent reading independently and their reading comprehension and oral reading fluency abilities.

Timeline

Permission was requested from the school principal at the end of November. During the last week in November, students were pre tested using the Informal Reading Inventory and the Woodcock Reading Mastery Test. An introductory lesson was taught reviewing independent reading. Students were guided how to use the in class reading log during that first week of December also.

Data collection took place from the first week in December through March 1st for total number of 12 weeks. Posttests were administered to students using alternate forms of the Informal Reading Inventory and the Woodcock Johnson Reading Mastery Test the final week in February.

Results

Over the course of the three months, the participation size diminished to 15 students out of the original 22 students, due to two students moving and five students not participating consistently with returning at home reading logs to class.

The data collected was used to determine if the amount of time spent reading independently correlated with the standard score on the Woodcock Johnson Reading Mastery Test. The standard score was compared to at-home independent reading, at-school independent reading and total time independent reading. The students' prosodic scores were also used to determine if a correlation exists between prosodic scores and at-home, at-school, and total independent reading minutes. Word count per minute was also correlated with at-home, at-school and total independent reading minutes. An alpha level of .05 was used for all statistical tests. A Pearson product-moment correlation coefficient was used on the nine tests.

Independent Reading	**Standard Score**	**Prosodic Score**	**Words Read per Minute**
At-Home	r(14)= -.34 p= .24	r(14)= .31 p=.29	r(14)= -.56 p= .04
At-School	r(14)= -.08 p= .79	r(14)= -.49 p= .08	r(14)= -.12 p= .68
Total	r(14)= -.31 p= .29	r(14)= .06 p= .85	r(14)= -.50 p= .07

The results reflect that no significant correlations were found except a negative correlation between words read per minute and at-home reading.

An independent t-test was used to compare the standard scores of students tested in November (M=109.00, SD=13.32) with scores from March (M=113.71, SD=11.28). No statistically significant difference was found, t(26)= -1.01, p=.32. An independent t-

test was used to compare the prosodic scores of students tested in November (M=2.21, SD=.80) with scores from March (M=2.57, SD=.85). No statistically significant difference was found, t(26)= -1.14, p=.26. An independent t-test was used to compare the words read per minute of students tested in November (M=101.57, SD=42.56) with scores from March (M=100.43, SD=24.42). No statistically significant difference was found, t(26)=.09, p=.93. The results of these t-tests showed no significant difference between scores on the pre-test and post-test.

Discussion

This study was conducted to determine if a correlation existed between the time students spent reading independently and their oral reading fluency and comprehension. Fifteen second grade students recorded their independent reading at home and at school for three months. Their reading comprehension scores on the Woodcock Johnson Reading Mastery Test, wpm count and prosodic fluency rubric were compared after 12 weeks. Results were analyzed to determine if significant correlations existed between the number of minutes read at home, at school and combined minutes, with the results from these tests.

The results reflect that there were no significant correlations found except a negative correlation between at home minutes and words read per minute. There is no clear explanation for why this occurred. It could be surmised that as students gained practice reading, their speed slowed down because of improved prosody.

It cannot be determined from this study whether independent reading is considered a successful intervention for improving reading fluency and comprehension.

The study was limited due to the short time span available to record data. Future research in this area should conduct data research on students over a longer time period.

LaBerge and Samuels (1974) indicated that oral reading fluency and automaticity have a reciprocal relationship with the amount of encounters with words. The question that results from this research is: Does the form and quality of reading influence the growth of oral reading fluency comprehension? It could be perceived that greater improvements in oral reading fluency and comprehension occur when specific strategies are instructed to the reader in combination with providing opportunities to read.

It would be preferred that future studies use a classroom setting which maintains a leveled independent reading library because it would provide students practice reading books that are at their independent reading level. The library would accurately lead the students to books at their appropriate level in contrast to randomly selected books. This would improve the quality of the time spent reading independently and could perhaps have an influence on the students' results.

Alternate ways to record the data should be considered in future studies. In this case, students were relied on to provide accurate record keeping. Although monitored in class by the teacher and an adult verified at home reading, students are trusted to keep truthful and correct information.

Conducting this same study over a longer period of time would possibly produce different results. It is hoped that continuing this study over a six month time span will prove that independent reading has a significant correlation with oral reading fluency and comprehension.

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Appendix A

John Marshall Elementary School
Prosodic Fluency

Name: _____ Teacher: _____

Date : _____ Title of Work: _____

	Criteria				Points
	1	2	3	4	
Student reads fluently without hesitation	choppy	word by word	fluently	fluently with expression	____
Student reads text with proper expression	no expression	little expression	some changes in intonation	uses proper intonation and speed	____
Use of grammatical cues	word by word	line by line	uses ending punctuation properly	uses all punctuation to affect tone, speed and phrasing.	____
Word recognition	laborious	sounds out words	few pauses	quick and accurate	____
Voice	soft, unintelligible	monotone	clear	clear and meaningful	____
				Total----->	____

Teacher Comments:

Appendix B

Use this chart to write down the time you spend reading a book on your own at school. Write the date and the time when you start reading. Then you can read. When you are done, write down the ending time.

Reading At School

*Name*_____

Date	Starting Time	Ending Time	Total Minutes

Appendix C

John Marshall School
Leisure Reading Log

Name:_____

Date	Title	Time Spent Reading	**Parent's Initials**

2805 East Tenth St.
Bloomington, IN 47405

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