Strategies to improve reading fluency in the elementary classroom

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Abstract
This paper examines the importance of instructing students in strategies to improve reading fluency. Research shows that very little class time is currently spent on teaching reading fluency and this paper provides instructional strategies that teachers can employ in their classrooms. The strategies discussed are Reader’s Theater, paired reading, buddy reading, modeling, repeated reading, and Read Naturally.

Research has proven all of these strategies to be effective, and this literature review describes the usefulness of these strategies. The importance of reading fluency instruction and technology integration has also become a key issue as new technologies are regularly introduced. The use of technology in reading fluency instruction is fairly new but research has already begun to show the benefits.
Strategies to Improve Reading Fluency in the Elementary Classroom

Jill Marie Vorwald Sampson

University of Northern Iowa
This Review by: Jill Marie Vorwald Sampson

Titled: Strategies to Improve Reading Fluency in the Elementary Classroom

has been approved as meeting the research requirement for the

Degree of Master of Arts in Education

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This paper examines the importance of instructing students in strategies to improve reading fluency. Research shows that very little class time is currently spent on teaching reading fluency and this paper provides instructional strategies that teachers can employ in their classrooms. The strategies discussed are Reader’s Theater, paired reading, buddy reading, modeling, repeated reading, and Read Naturally. Research has proven all of these strategies to be effective, and this literature review describes the usefulness of these strategies. The importance of reading fluency instruction and technology integration has also become a key issue as new technologies are regularly introduced. The use of technology in reading fluency instruction is fairly new but research has already begun to show the benefits.
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Reading fluency is a vital component of all elementary reading programs. Fluency is defined as word recognition plus comprehension and also includes reading text accurately, quickly, and with good expression so that time can be spent on comprehension (Wolf, 2004).

Students who read more slowly take a great deal more time to read the same information as a more fluent reader. Thus, slow readers have to invest a great deal more time and energy to read the same amount of text as their more fluent peers. This makes them less likely to read in or out of class because it is so much work. The less they read the less likely they are to improve their reading fluency. Reading at a slow rate also decreases comprehension and overall reading performance. When reading slowly it is difficult for students to keep track of what is happening in the material they are reading. They have to place so much of their attention on decoding that the reading pace is decreased and cognitive resources are used for word recognition instead of comprehension. Disfluent students also miss phrasing and syntax because of their intense focus on simply reading each word. This also decreases comprehension. Rasinski (2000) states, "Slow, disfluent reading, then, is linked with poor comprehension. This leads to students reading less, which in turn results in their making slower progress in reading than students who read at a more normal rate for their age or grade placement."

The most common reason students struggle with reading fluently is because they do not have automatic decoding skills. This prevents them from being able to read smoothly and accurately. Another reason deals with a weakness in phonemic awareness, which means that struggling readers are not as aware as other readers of the sounds that make up words in speech. Another major reason includes those children whose decoding skills are accurate but they need more practice. Many times these students are second language learners and they benefit from
many opportunities to practice. The final reason is because the areas in the brain that put
together visual and verbal processes don’t work together automatically (Wolf, 2004). The
reasons for reading fluency problems are all related and many times work together to cause
fluency difficulties in students.

Fluency is no longer thought of as an outcome but as a developmental process. Many
linguistic areas contribute to fluency such as knowledge of letter patterns, vocabulary,
knowledge of grammatical functions, and knowledge of word roots and parts. Research has also
shown that fluency development begins earlier than otherwise thought (Wolf, 2004).

The importance of instructing students in reading fluency has become increasingly
important with the implementation of the No Child Left Behind (NCLB) legislation. Reading
fluency is one of the five reading areas that have been singled out by No Child Left Behind as an
essential component of reading instruction. Schools, teachers, and students are now being held
to the standards established by No Child Left Behind, which creates a bigger push for instruction
and growth in the area of reading fluency.

Research has shown several valuable instructional strategies that teachers can use in order
to improve the level of reading fluency in their students. Some of these methods include the use
of Reader’s Theater, paired reading, buddy reading, teacher modeling, repeated reading, and the
use of a program called Read Naturally. With new advancements in technology, the use of
computers has become another way for teachers to spend more time on fluency instruction.
Research has shown the effectiveness of using computer software to improve fluency and
reading instruction, although specific research on reading instruction and technology is really
only beginning.
Rationale and Purpose

Many students struggle with reading fluently and at this time there is very little productive classroom time spent on instructing students on how to effectively improve reading fluency. The rationale behind this research relates to the importance of reading fluency and the fact that it is a major goal of all elementary reading programs. This review will show the importance of instructing students in reading fluency strategies. The strategies will also be explained in detail so that elementary teachers are able to easily implement them into their own classroom routines. The format of this review will be especially beneficial because the strategies are all found in one document with full descriptions.

Research Questions

This review will examine research on the instructional strategies that are best fit to improving reading fluency in elementary students. It will also focus on the integration of reading fluency and technology. The following questions will be answered in this literature review:

1. What does current research say in regards to the use of technology in reading instruction, specifically reading fluency instruction?

2. What strategies can classroom teachers use to effectively instruct their students in reading fluency?

3. What are some programs or tools that are currently available to assist teachers in the instruction of reading fluency?

Methodology

Various methods were used to locate the sources used in this literature review. The Rod Library at the University of Northern Iowa was used to locate articles from professional journals. The online resources provided by Rod Library were also helpful and the Wilson Web
tool was used extensively to locate useful full text articles. The internet was another source used to find articles. Many different search criteria were utilized when looking for both articles from professional journals and online articles.

Sources were selected for this review based on the level of content that related specifically to strategies that teachers can employ to improve their students' reading fluency. Once the researcher had compiled a list of the specific strategies to be included in this review, sources were then selected based on their correlation with these specific strategies. Great care was taken to ensure that all sources contained quality, legitimate information. Online sources were carefully evaluated and used only when the researcher was certain they were truthful.

Analysis and Discussion

Strategies to Improve Reading Fluency

Reading fluency is an area of reading instruction that is many times pushed aside due to a lack of time by educators. Many leave students to pick up this very important skill on their own. While this works for many students, others struggle a great deal without formal fluency instruction. Reading fluency is important because it is the ability to read text accurately, quickly, and with good expression. Reading in this manner allows students to spend their time on comprehension (Wolf, 2004).

This portion of the literature review will give an in-depth description of six strategies that can be easily implemented in the elementary classroom to assist students with reading fluently. Each of these strategies can be tied to several underlying teaching principals. These teaching principals are student engagement, repetition, authenticity, and modeling. Student engagement is simply keeping students active and involved in reading fluency instruction and activities. Repetition relates to the number of times that students need to read or hear the same piece of text
before being able to read it fluently themselves. Creating activities that require real reasons for reading and practice keeps the lessons authentic and the students involved. Finally, modeling can take place in several formats. This includes both teacher modeling and peer modeling.

In reading this portion of the literature review, you will notice that the first three strategies described, Reader’s Theater, paired reading, and buddy reading, contain detailed descriptions of specific research studies, while the rest of the review contains only general research study information. This was done because the author of this review feels that the studies described in depth contain important information that teachers can use to effectively implement the strategies of Reader’s Theater, paired reading, and buddy reading into their own classrooms.

*Reader’s theater.* The first strategy and one of the most interactive ways to promote reading fluency is through the use of Reader’s Theater. As you will see, Reader’s Theater involves all of the previously mentioned teaching principals of student engagement, repetition, authenticity, and modeling. Reader’s Theater is one of the best ways to promote reading fluency. The focus is not on memorizing the script in Reader’s Theater but on conveying the message through expression. This takes the pressure of memorization off students and allows them to work on reading their part in an expressive, fluent manner.

In Reader’s Theater students rehearse a poem, joke, script, speech or any other appropriate text until they are able to read it fluently and with expression for an audience. Students are not responsible for memorizing their parts and the use of props and costumes is minimal. Reader’s Theater is beneficial for students who have difficulty with reading because they are rarely given speaking roles in public settings. Repeated practice of the script is very important so that all students feel comfortable and can be successful.
Reader's Theater gives students an authentic reason for rereading the same material over and over, a task that is otherwise meaningless in students' eyes. Students are also forced to read at an appropriate pace and attend to the meaning so that others are able to understand their performance.

All texts chosen for Reader's Theater should be at readers' instructional reading level. The plots should be easy to understand and the characters should be straightforward. Using texts from series books is helpful because the students can become familiar with the author's style. Scenes or chapters from books, poetry, and famous speeches are all examples of other types of texts that are beneficial when used with Readers Theatre. With time and support students may also be able to write their own scripts.

Worthy and Prater (2002) state the following, "The backbone of reader's theater is repeated reading, a tested and proven method for increasing reading fluency in short-term studies." The following paragraphs describe a study in particular that was completed in order to prove the effectiveness of Reader's Theater in the elementary classroom.

In 2003, Susan Keehn conducted a study that evaluated the effectiveness of using two different methods of Reader's Theater in four second grade classrooms. The study was conducted in a rural school district in Texas. The four classrooms were randomly selected and the participants were the 66 students in these classes. This study was conducted over a nine week time period during the third quarter of the school year. This study was conducted to determine the effectiveness of using Reader's Theater in elementary classrooms to improve reading fluency. The students were at different levels of reading ability and this study used varying instructional treatments to determine their effectiveness on reading fluency. There were three questions that this study wanted to answer. The first dealt with the effect of rereading,
modeling, and the use of appropriate Reader’s Theater text on reading fluency. The second asked whether or not explicit instruction in fluency would increase students’ reading fluency. The third questioned the relationship between reading fluency and reading comprehension scores for students at various reading levels.

Students were placed in one of the following two treatment groups for the duration of the study.

**Treatment 1:** Two of the four classrooms were randomly chosen to receive this treatment. These two classrooms received the intervention of Reader’s Theater for the nine week time period. They also received weekly mini-lessons and daily coaching in strategies intended to increase reading fluency. Students were grouped according to reading abilities. Teachers were directed to “coach” their students as they practiced reading the scripts each week. Teachers received training on a weekly basis on how to teach the mini-lessons. Observations by the researcher were also conducted on a systematic basis. There was a specific plan to be followed each week for implementation of Reader’s Theater.

**Treatment 2:** Two of the four classrooms were randomly chosen to receive only the intervention of Reader’s Theater for the nine week time period without additional fluency instruction. Students were grouped according to reading abilities. Teachers were directed to “monitor” their students as they practiced reading the scripts each week. Teachers did receive training in Reader’s Theater procedures and they were observed on a systematic basis by the researcher (Keehn, 2003).

Keehn (2003) determined the following as a result of her study. Students in both treatment groups made significant growth in reading fluency during the nine week intervention.
Low-ability students made significant growth in all areas except accuracy. The average-ability group made significant growth in all areas except rate. The high-ability group made significant growth in five of the eight tested areas (retelling, phrasing, expressiveness, comprehension, and word identification). This shows that all students made growth as a result of the implementation of the Reader’s Theater program. Accuracy was not used a dependent variable because materials were at students’ instructional reading levels.

Paired reading. The second strategy that has been proven to effective in increasing the reading fluency rate of elementary students is paired reading or partner reading. While paired reading does involve all four the underlying teaching principals, it is especially strong in the areas of modeling and repetition. Paired reading provides struggling readers with one-on-one fluency instruction. When using paired reading, students are able to choose appropriate reading materials that interest them. Participants in paired reading always include a stronger reader who is matched with a weaker reader. Paired reading usually takes place between an adult and a child but this strategy can also be effective when an older child assists a much younger child. Paired reading begins with the fluent reader reading a passage aloud in order to model fluent reading. The roles then reverse and the student reads the same passage.

It is also beneficial to ask comprehension questions throughout this process to ensure that comprehension is remaining constant or improving as fluency improves. As stated earlier in this review, fluency and comprehension are two very important parts of the reading process and research has shown that those students who can read fluently are able to direct cognitive resources to comprehension. The degree to which fluency and comprehension are related is still being debated although most agree that an increase in one leads to an increase in the other.
The following two research studies describe the benefits of using paired reading in an elementary classroom. Vaughn et al. (2000) conducted a study to address the differential effects of fluency and comprehension instruction on fluency and comprehension in groups of students. Subjects were put into two treatment groups, those with significant reading problems and those who were low-to-average achieving students. There were a total of 111 students that participated in the 12-week study. There were two separate treatments, partner reading (designed to improve fluency) and collaborative strategic reading (designed to improve comprehension).

For both interventions that were implemented in the study teachers received training and background information. In both strategies the students worked in pairs two to three times a week for 12 weeks.

Partner Reading – A stronger reader was paired with a weaker reader. Student partners took turns reading for three minutes. Partner 1 read first in order to model fluent reading. Then Partner 2 read the same passage. Partner 1 coached Partner 2 through the reading and then a one minute timing was taken for Partner 1. Partner 2 read the same passage again and was also timed. Both partners charted their total words read.

Collaborative Strategic Reading – Four reading strategies were used in the implementation of this intervention. They were preview, click and clunk, get the gists, and wrap up. These strategies were used to aid in comprehension (Vaughn et al., 2000).

The following results were found by Vaughn et al. (2000), “This study provides support for the close link between fluency and comprehension instruction, and reveals that for third-grade students who were taught these strategies, outcomes are not intervention specific.” For students who participated in either treatment, regardless of whether they were identified as reading disabled, significant time effects were realized for rate of reading and correct words per
minute. This means that through the use of the paired reading strategy, students made growth in their reading fluency rate.

The second study on paired reading consisted of four students who were in fourth, fifth, and sixth grade from a rural school district in West Texas. These students were selected because of a recommendation from their teachers and principal based on the difficulties that each experienced with reading fluency. The study was conducted for 11 weeks and the intervention sessions took place five days a week. Each student worked one-on-one with the researcher for approximately 30-40 minutes per day. The students were able to choose the reading material to use during the study based on their own interests and reading levels. All students used trade books. The following skills were assessed for each student: oral reading fluency rate, reading accuracy, and reading comprehension. The study included three phases: baseline, intervention, and maintenance.

Baseline – Baseline data on fluency and accuracy were collected on each student prior to the beginning of the study. This information was collected without any paired reading instruction. Students graphed their own data points on a daily basis so that they were able to see their progress.

Intervention – These sessions included oral reading and discussion. At the beginning of each session there was a review of what had been already read. The researcher then read aloud in order to model fluent reading. The roles were then reversed and the student read the same passage. Each student read for about 20 minutes per session. Daily fluency rates and accuracy data were collected and graphed on a daily basis.

Maintenance – The information collected during this phase of the study was used to determine whether or not the effects of the paired reading intervention would be
maintained after the intervention was over. Paired reading fluency rates and accuracy percentages were taken at five periodic points after the intervention was over.

Generalization – Once every two weeks throughout the study probes were used to test each student’s reading rates without paired reading. These were passages that had not been already read during the intervention sessions, although the passages were taken from the same trade book. Fluency rates were recorded (Nes, 2003).

Nes (2003) found that participants increased their mean reading rate from anywhere between 56 to 70 words per minute. Increasing reading fluency did not have a negative effect on accuracy. The accuracy percentages were between 95 and 98% for the four students.

Comprehension results also remained high throughout the study with mean scores in the 90th percentile for all students. Nes (2003) made the following statement to further conclude the results of her study, “In conclusion, the unique characteristics of the paired reading instruction (i.e., positive one-to-one interactions between skilled and less-skilled readers, promotion of reader engagement, extended practice, concrete evidence of progress, and reader voice in selection of interesting materials) may promote rapid turn-around in reading fluency proficiency for less-skilled readers. Paired reading was an effective method of instruction for all four participants. In each case, reading fluency rates increased greatly, while high and stable levels of accuracy and comprehension were maintained.” It is important to recognize that paired reading involves more than simply reading the same materials over and over. Paired reading takes place in a social situation that provides authentic purpose for reading; it is not just rote repetition.

Buddy reading. A third strategy that elementary teachers can use to help their students with reading fluency is buddy reading. Buddy reading is also sometimes described as book buddies. Buddy reading is also strongly related to the teaching principals of modeling and
repetition. However, student engagement and authenticity play a larger role in buddy reading because the struggling readers are able to work with other students. This strategy involves pairing two students of varying reading levels together. This can be done with students in the same classroom or with students of different age levels. The stronger (older) reader reads and holds the book while the weaker (younger) reader follows along. Both book buddies answer questions about the book. Buddy reading is similar to paired reading but the following paragraphs explain the differences between the two strategies.

In buddy reading, the tutors learn to read with expression, to create voices for the characters, to verbalize comprehension strategies, and they gain a sense of accomplishment. Tutees obtain an older friend in the school, a sense of belonging and pride, and their literacy abilities grow as they hear strategies explained. Classroom teachers benefit because they are unable to provide struggling children with extended periods of one-on-one tutoring throughout the school day (Collins Block and Dellamura, 2000/2001).

Studies have shown that when buddy reading is coupled with writing activities writing, comprehension, and reading retention all increase. Collins Block and Dellamura (2000/2001) described these writing activities in greater detail.

Buddy Journal – The tutor records questions or activities they want to cover during each session. Spaces are left to record the answers as well.

Reflection Form – After six sessions the tutors’ record all they have learned and the tutees can write or orally state their agreement or disagreement. There is a standard format to be followed for this activity.

Reading Records – Books are recorded and then scored by the tutee.
Strategies Checklist – Decoding and comprehension strategies are recorded to remind both people of the various strategies that are available. A checkmark is placed next to each strategy each time it is applied.

Question Game – Using a spinner questions about a particular book are written on each quadrant. After reading the book, the tutee and tutor take turns spinning and answering the questions.

Goal Books – Booklets are designed to show the progress on their self-selected literary goals. Tutees list their goals and the tutor provides praise and validation when the goals are met.

In 2000, Morgan, Wilcox, and Eldredge conducted a study in order to determine how far above a poor reader’s instructional level buddy reading should be used to promote the greatest growth in reading level, word recognition, comprehension, and rate. Fifty-one second grade students participated in this survey. The students were randomly assigned to one of three groups:

Group 1 – buddy reading at their instructional level
Group 2 – buddy reading two grades above their instructional level
Group 3 – buddy reading four grades above their instructional level

The study was conducted for 95 days and all groups read for 15 minutes per day.

The study began with the use of informal reading inventories, which identified those students who were reading below the second grade level. The students were then selected and randomly placed in one of the three groups. Teachers were trained in dyad reading before the study began as well. Teachers paired students into dyads, which changed on a weekly basis unless students were involved in a longer book. Each classroom was given bins filled with
appropriate books for the students to choose from. The bins were color-coded so that students were able to find the book bin with books at the level they had been assigned to.

Morgan et al. (2000) found the following results. All groups were found to have gains in reading level. The students that progressed the most rapidly were those that were paired with reading materials that were two grade levels above their instructional reading level. The average reading level gain for Group 2 was 2.73, Group 1’s average reading level gain was 1.55, and the average reading level gain for Group 3 was 2.06. These numbers represent a growth in reading level according to the Burns/Roe Informal Reading Inventory. There was a significant difference between groups 2 and 1, which reveals the greater benefit of matching poor readers with materials that are two grade levels above their instructional level for dyad reading.

No significant differences were found in word recognition, comprehension, or rate. Several explanations were given for the lack of growth shown. Researchers found that the various teachers who participated in the study had significant differences in rate. This may have occurred because of a lack of concern certain teachers had when carrying out buddy reading procedures. Students also spent a great deal of time looking at the illustrations, which may have affected the rate.

One possible explanation the authors gave for the lack of comprehension and word recognition growth was based on the reading material used for the posttest. The posttest book was a popular picture book. Students were able to comprehend and read the words in the book fairly well, although their level of word recognition from the Burns/Roe Informal Reading Inventory was low. Again, previous knowledge of the book and picture clues were of great assistance.
According to this study (Morgan et al., 2000), "...poor readers can improve significantly when they are matched with frustration-level materials for greater decoding practice, provided they have assistance."

*Teacher modeling.* The next two reading fluency strategies are teacher modeling and repeated reading. Both are easy to implement and involve very little if any teacher preparation. Both strategies can also be related to the four underlying teaching principals of student engagement, repetition, authenticity, and modeling. Modeling fluency is essential in the development of fluent readers (Chalmers, 2004). In addition to the modeling of fluency that a fellow student can provide, modeling by the classroom teacher can also be very important. Students must be read to in an expressive manner in order to fully understand what fluent reading sounds like. It is also beneficial if students are able to follow along and read the same passages to themselves while the teacher reads them aloud. Students are able to take what they hear and apply these same strategies to their own reading. Teachers should be creative when reading aloud and use a variety of strategies to model fluent reading. They should also assess students and help them to develop self-correction skills when reading aloud. Modeling shows students the processes that good readers go through when reading aloud. Good readers must listen to themselves read and then assess if what they are saying makes sense. Teachers should also encourage students to use the cues that are available to them such as illustrations or familiar stories to help them improve both reading fluency and comprehension (Chalmers, 2004).

Echo reading and choral reading are also good alternatives to simply reading aloud. Echo reading occurs when students repeat back to the teacher the text that was just read to them. Choral reading involves the students reading along with the teacher or expert reader. Benefits of
modeling, echo reading, and choral reading include gains in rate, accuracy, phrasing, segmentation, and expression (Worthy & Broaddus, 2000/2001).

Repeated reading. Repeated reading involves reading the same story or poem several times so that students can develop confidence and fluent behaviors. This form of fluency instruction is one of the most common forms currently used for fluency instruction in elementary classrooms. Materials used for repeated reading should be at the students’ instructional reading levels. When using repeated reading, teachers should instruct students in the areas of phrasing and expression so that they are able to read the materials more fluently.

Repeated reading is much more effective when used for authentic purposes (Worthy & Broaddus, 2000/2001). Students are more engaged in the process when they are able to rehearse a poem, joke, story, Reader’s Theater script, speech, or other text until they can read it fluently and then perform it for an audience. Reading performance encourages students to read at an appropriate rate while also reading with correct expression and intonation. When students are able to interpret and read texts with expression, their comprehension improves as well. Worthy and Broaddus (2000/2001) state that, “In addition to improving speed and accuracy, guided repeated reading has been shown to improve word recognition, fluency, and comprehension.” This statement is true for students across a variety of grade and ability levels.

Repeated reading can also take the format of echo and choral reading in the classroom. These formats work especially well with poetry and provide excellent opportunities to discuss phrasing and intonation. It is best to read the poem as a class several times so that students are all actively engaged. Using this sequence of events may also make students feel less apprehensive about making a mistake because they are part of a community of readers (Blau, 2001).
The final reading strategy that is discussed in this literature review describes the commercial program Reading Naturally, which is used to increase fluency in both elementary and middle school classrooms. This program is especially strong in the areas of repetition and student engagement because students reread the same passage several times and they also are engaged in finding and graphing their own results. Students who have poor reading fluency also have difficulty with comprehension because they are so focused on reading each word that they are unable to gain meaning from what they read. Read Naturally focuses on and meets the following three effective interventions: reading with a model or hearing fluent reading, repeated readings, and monitoring students’ progress and providing them with feedback.

To begin this program students are first assessed and placed at an appropriate level. Then there are four steps to the actual program.

1. Unpracticed “cold reading” of a text at the targeted level. At the end of one minute students find their words per minute and graph it.

2. Practice reading the same passage several times with a model.

3. Read the passage independently for one minute trying to reach a specific goal for number of words per minute.

4. Teacher checks the students’ fluent reading of the passage. At the end of one minute the teacher finds the words read per minute.

If the student “passes” this passage they go on to another that is within their targeted range.

After reading 10-12 passages at their targeted level they meet with the teacher to determine if they are ready to move to the next level (Hasbrouch, Ihnot, & Rogers, 1999).

Research (Hasbrouch et al., 1999) has shown the following benefits of using Read Naturally. There is an increase of words read per minute and an increase in reading fluency.
Students' self-esteem and confidence about their own reading abilities increase. Finally, students are able to work independently on this program. Hasbroach et al. (1999) states, “The four-step Read Naturally strategy combines research-based components into a process that teachers at elementary and middle schools, who work with remedial as well as special education students, have found can have a positive effect on their students’ reading fluency and comprehension, as well as on their attitude and motivation, that exceeds expectations.”

**Reading Fluency and Technology Integration**

The topic of reading instruction and the integration of technology into that instruction is becoming more important as new technologies are released regularly. These new technologies are especially beneficial for those students who are struggling with learning how to read or are falling behind their peers. These new programs have gained widespread acceptance due to their ability to engage beginning and struggling readers in developmentally appropriate reading activities that meet various instructional needs (Edyburn, 2004). At this time, however, there is still much research that needs to be done in regards to the effectiveness of these new programs. The following paragraphs further discuss this research and the impact that it has had on the integration of technology into reading instruction. The relationship between technology and the underlying teaching principals is also evident. Students must be engaged, programs must use some form of repetition, students must feel they are working for authentic purposes, and some kind of modeling must occur.

In 2003, Venn conducted research on the effects of self-graphing reading performance for a nine year old child with an emotional/behavioral disorder. The study took place in the child’s special education classroom at school, where she spent half of every school day. The reading materials used came from the child’s social studies textbook because this was an assigned text
and a subject the child participated in daily. The passages from the book were read in sequence and the same passage was never read twice. The number of words read correctly in a five minute time frame were recorded and then divided by five to find the average number of words read per minute. The student was in charge of graphing her average number of word per minute daily. The results of the study showed that having students with a disability graph their academic performance using a computer had a positive impact on learning. Venn (2003) found that during the baseline stage of the study the child was able to read 72.07 words per minutes. By the end of the study the child was reading 123.7 words per minute. This research is encouraging because of the positive effect on academic development and the amount of time saved by the teacher through the use of student graphing.

The use of graphing is only one aspect of technology that has been researched in regards to reading fluency. The effect of multimedia CD-ROMS or storybooks in relation to reading growth is another area that has been studied. “Multimedia storybooks promote fluency by enabling children to actively pursue topics of interest and learn at their own pace using a multimodal learning style” (Glasgow, 1997). The use of these programs has proven to be beneficial because today’s students are motivated by audiovisual presentations not paper and pencil learning activities. Multimedia approaches to learning also appeal to Gardner’s multiple intelligences. All of the multiple intelligences can be met in some form through the use of this type of software.

Being a fluent reader also involves being familiar with the basic structure of text and using this knowledge to aid in comprehension. This involves working on all reading skills, not simply reading fluency. These multimedia books or e-books as they are sometimes called help students build sight vocabularies, decode words, and identify sentence patterns (Glasgow,
Children who use multimedia approaches to practicing reading fluency also develop reasoning, problem-solving, and organizational skills (Glasgow, 1997).

These books present traditional books on a computer screen that allows children to listen to the story as it is read. Some of these books have the capability to highlight each word as it is read. This allows the student to easily follow along and better understand words he/she could not have read independently. Many CD-ROM storybooks or e-books allow students to make choices and thus alter the path of the story based on choices they are able to make while moving throughout the story.

Electronic books have been designed to support young readers in their development of reading fluency. They have the ability to provide a model of fluent reading, provide help in decoding words, provide visual highlighting, allow children to read more difficult books, provide speech recognition tools, and provide recording and analysis tools for teachers (Northeast and the Islands Regional Technology in Education Consortium, 2004, Fluency section).

From the research that has been completed it is evident that multimedia storybooks are beneficial to both students and teachers. Students are able to use a powerful tool that allows them to explore fundamental reading concepts that are embedded in an authentic context. Teachers are able to provide their students with activities that scaffold the reading process at all levels.

There are many instructional tools or programs currently on the market that are designed to assist teachers in the instruction of reading and reading fluency. Reading management systems are one option that has been researched in regards to use of technology integration and reading. These systems allow students to select independent reading books that are at their own reading levels. Verification of comprehension and appropriate skill growth is tested with a
computerized test. Some examples of programs that fall within this category are Accelerated Reader and Reading Counts.

With the help of technology and new computer programs teachers are able to spend more time actually teaching real reading skills and strategies. The reading management technology makes this possible when it is used as a tool to help teachers individualize and differentiate instruction for each student (Grenawalt, 2004). Studies have shown that students who participate in reading management programs show significant improvement in reading comprehension, attitudes toward reading, and even better school attendance (Grenawalt, 2004).

Another program that is currently available to assist teachers with reading instruction is Lexia Reading SOS. This program is specifically designed for those people ages nine through adult who have not yet achieved reading fluency. Giannelli-Artemie (2004) states that the program is designed around five specific levels that help users to improve basic reading skills such as automaticity in recognizing phonetic elements and sound/symbol relationships.

With this software program, teachers have the ability to select the starting level for each student or for an entire class. The program can also be set up so that students are allowed to move the next level only when successfully completing the previous level. Various reports can be printed so that the success and growth of each child is easily accessible. This program can be used as just one part of an integrated language arts curriculum or a stand-alone teaching tool.

The Reader's Edge is an example of another program that is available to teach fluent reading skills. This program was designed based on extensive research by The Literacy Company and it includes the following components: vocabulary development, eye exercises to improve current reading speed, a large number of reading selections, and progress monitoring.
The Reader’s Edge teaches users to learn the habits of fluent readers while unlearning the habits of slow readers.

The final program that is going to be discussed in this paper is called Soliloquy Reading Assistant. This software actually lets the computer “listen” to a child read aloud. The computer presents text on the screen, listens as the child reads the text aloud, provides feedback and support if the child has difficulty, and keeps track of the child’s fluency and accuracy (Wren, 2003).

This software holds great promise for the future because research has already proven that fluency is improved when students spend more time reading and when they read the same text over and over. “Soliloquy Reading Assistant … builds reading fluency skills through oral reading practice with guidance and feedback, recommended by the National Reading Panel as a learning process that improves reading skills” (Soliloquy Learning, 2003, Overview section).

Conclusions and Recommendations

Conclusions

In conclusion, instructing students in strategies to improve reading fluency should be a vital part of all elementary reading curriculums. Reading fluency is a very important part of being an expert reader and teachers need to address this reading skill on a regular basis in their classrooms. Instruction in reading fluency has been proven to be linked to gains in reading comprehension, another important goal of all reading curriculums.

There are many strategies that teachers can implement into their instruction in order to assist their students in gaining the necessary skills to read more fluently. One of the most effective and interesting ways to do this is through the use of Reader’s Theater. Reader’s Theater gives students a meaningful opportunity to reread the same piece of text over and over
until they are able to read it fluently. In Reader’s Theater the focus is not on memorization or props, the focus is on conveying the message through expression. It is very important that students have enough time to practice their Reader’s Theater parts so that they are able to be successful when performing in front of an audience.

The second strategy discussed in this review is paired reading. This involves one-on-one fluency instruction for those who are struggling with reading. Students are able to work with an expert reader on materials that are at their instructional reading level. Students are also able to choose the materials that are read, making the entire experience more interesting and motivating.

Buddy reading can take place with either a younger reader or an older reader. Both formats are beneficial for those who are having difficulty with reading fluency. When struggling readers are paired with a younger buddy they are allowed to practice their own reading skills while reading easier books to a non-threatening audience. When struggling readers are paired with an older buddy they are given a model of fluent reading and are provided with strategies that they can take and use in their own reading experiences.

Modeling and repeated reading are two of the most common strategies that are currently in use in elementary classrooms to teach reading fluency. This is mainly due to the ease of implementation and the lack of time these activities take from an already busy school day. Modeling occurs when teachers or other expert readers read aloud to children so that they are able to hear what fluent reading sounds like. Modeling can also occur through the use of echo reading or choral reading.

Repeated reading is rereading the same piece of text over and over. Through this process students become more familiar with the poem, story, etc. and are then able to read it with more expression and intonation.
Reading Fluency

Read Naturally is a program that exists to specifically instruct students in reading fluency. This instruction takes place through the use of modeled reading, repeated reading, and teacher monitoring and feedback.

Many factors need to be addressed and considered when integrating technology into the reading curriculum. Teachers must read the current research studies and also read reviews of software programs that are available before making any purchases. It is also understandable that a great deal more research needs to be done on this topic because the idea of integrating technology into the reading curriculum, specifically reading fluency, is a fairly new idea. It is also essential to keep in mind that no matter what advances are made in technology, when it comes to teaching reading, nothing can replace a strong teacher who can cater instruction to the specific needs of his/her students (Wren, 2003).

Administrators, teachers, and parents must keep in mind that these programs are teaching tools that can be used effectively or used poorly depending on individual circumstances. If used well, they can create enthusiastic readers who know themselves and their reading abilities and preferences well. They can also provide teachers with a fantastic way of holding students accountable for practicing specific reading skills (Grenawalt, 2004).

Recommendations for Future Research

As with any topic in education, more research on reading fluency and the strategies that can be used is necessary in order to fully understand how to best teach this skill to children. Teachers need to be aware of the current research findings and continue to stay abreast of any new developments in order to provide their students with the very best educational experience. The future only holds more changes in regards reading fluency and how to best teach this
important skill. In order to meet these latest challenges, teachers must be well-informed and open-minded.

*Classroom Applications*

Educators at all levels can take the information presented in this literature review to their own classrooms for the betterment of their reading curriculum. The strategies are fairly easy to implement and well worth the growth in reading fluency rates that research has proven will occur. As a researcher, it is my hope that this information will not only benefit my own classroom and my own students but also many other children. Reading fluency must become a focus in all reading programs before there are considerable changes in the reading rates of students across the United States. Teachers must take an active role in fluency instruction because only then will there be significant gains.
References


Kamhi, A. G. The role of the SLP in improving reading fluency. Retrieved on


Special Education 21(6), 325-335.


