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Impact of Student-Centered Goal Setting and Progress Monitoring on Oral Reading Fluency

Scores in Fourth and Fifth Grade Students

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Spring 2013

Abstract

This action research study conducted by a student researcher as part of the coursework required for a graduate capstone course looked at the extent to which student-centered progress monitoring affected reading fluency scores among a sample fourth and fifth grade students. Four students from the fifth grade (1 male, 3 female) and four students from the fourth grade (3 male, 1 female) were selected to participate (n=8). Student participants were selected based on reading fluency scores provided by their teachers. This study examined the effects of student-centered goals and progress monitoring on the participants' reading fluency scores over a four week period. Data collection tools used in this study include pre- and post-tests of participants' reading fluency using commercially available programs and weekly assessments using grade-level curriculum based passages. Challenges of this study include a small sample size, the short chronological length of the study, and the potential imprecision of using non-standardized curriculum based passages. Results of this study indicate gains in reading fluency in seven of the eight participants; these gains were present in both the accuracy and prosody aspects of reading fluency.

Impact of Student-Centered Goal Setting and Progress Monitoring on Oral Reading Fluency Scores in Fourth and Fifth Grade Students

Introduction

Since the inception of the public school, educators have understood the importance of teaching children not only to read, but to read well. According to Hudson, Land, and Pullen (2005), the fluency with which a student reads is one of the defining characteristics that separates a good reader from a poor one. Reading fluency is defined as decoding text with accuracy, while maintaining a conversational rate and appropriate expression, and is a critical component of reading because it directly impacts comprehension of a text (Hudson et al., 2005). Lambert (2008) likens the fluency-comprehension relationship to that of the public speaker and audience. Effective speakers and fluent readers alike use appropriate cadence, emphasis, and intonation to relay a comprehensible message to the audience (Lambert, 2008). This is the same in reading, except the reader is his own audience and is responsible for the comprehension of the material on his own. And with some training in student-centered progress monitoring, students can become successful self-regulators of their own growth in reading fluency. Fourth and fifth grade students who set goals and monitor their own progress should see demonstrable growth in reading fluency scores.

Literature Review

Students are expected to read independently and understand what they read across all content areas, not just in reading class. In science class, students must be able to read and understand the steps to conduct an experiment. In math, students must be able to read and understand word problems. In music class, students must be able to read the lyrics of a song. Clearly, independent, fluent reading is a skill that must be mastered in order to achieve success in

school. Teaching students to monitor their own learning in the area of reading fluency can have a positive impact on students' reading fluency scores, which can then lead to greater success in school overall.

Importance of Reading Fluency

Fluent reading contains three crucial elements: accurate decoding and word recognition, appropriate rate, and good prosody (Lambert, 2008). In the younger grades, fluent readers are expected to move from accurately identifying letters in isolation to decoding and/or recognizing words in isolation. However, as students progress, they are expected to accurately decode and/or recognize words in text. Inaccurate decoding and a lack of automacity in word recognition lead to a labored, disconnected reading style that makes comprehension of the text extremely difficult (Hudson et al., 2005). Without mastery of the accuracy component of reading fluency, all aspects of reading will suffer.

While accuracy refers to the student's ability to decode and recognize words in text, rate refers to the speed at which a student is able to do that (Lambert, 2008). In order to be successful overall as readers, students need to be able to quickly identify each word in a given text. The goal for each student is to have automatic recognition, so that more cognition is available to focus on comprehension of the text. Since comprehension requires the use of higher order processes and is not automatic, word recognition needs to be as automatic as possible (Hudson et al., 2005).

Nunes, Bryant, and Barros (2012) studied the reading rate and its effects on reading fluency and reading comprehension. The focus in this study was to determine whether students' reading became more automatic when reading graphemes (letters) or morphemes (groups of letters that convey meaning, or words) and if that automacity had any effect on overall

comprehension. What these researchers found is that students who are able to develop a quicker rate of automaticity with morphemes tend to have higher scores in both fluency and comprehension (Nunes et al., 2012). This study certainly helps to solidify the connection between automaticity and fluency, and fluency and comprehension. This further demonstrates the need to focus on teaching word, rather than letter, recognition.

The third component of reading fluency, prosody, refers to the appropriate use of expression and intonation while reading (Lambert, 2008). Prosody describes the rhythm and tone of oral language, and includes pitch variations, stress patterns, and duration of speech (Hudson et al., 2005). Each component of prosody works together to create the overall expression given to the reading of the text. It is critical that reading teachers address accuracy, rate, and prosody in order to encourage fluent reading.

Typically, reading fluency is a concern of teachers of the primary grades. However, recent research demonstrates that the reading fluency scores of older students should also be a concern. Rasinski, Rikli, and Johnston (2009) studied the assessed reading fluency in third, fourth, and fifth grade students and found a significant correlation between fluency scores and silent reading comprehension. These findings are important because the focus of this action research project will be fourth and fifth grade students – students whose reading fluency scores have traditionally been ignored.

Kim, Petscher, Schatschneider, and Foorman (2010) also studied reading fluency among students beyond the primary grades. Kim et al. (2010) included first and second grade students as well, but focused on third grade students and found that oral reading fluency scores strongly contributed to the reading comprehension scores among the third graders. This study is yet

another example of the importance of studying reading fluency, especially in students beyond the primary level.

Assessment of Reading Fluency

The importance of reading fluency led to the development of national oral reading fluency (hereafter, ORF) norms for grades 1-8 (Hasbrouck & Tindal, 2006). The national norms are based on words correct per minute (hereafter, WCPM) and delineate exactly how many words per minute students should read at various points throughout the school year. This is important because it helps teachers to gauge student progress and identify deficits. These ORF norms will be used in this study as a tool to help students understand their current reading fluency scores (Appendix A).

The WCPM method of assessing reading fluency is the most common assessment method (Hasbrouck & Tindal, 2006), and such assessment of reading fluency scores is crucial to the overall growth of reading ability. Vannest, Parker, and Dyer (2011) note that formative assessments can help to improve learning in all environments and content areas. Comparing assessment scores to criterion-referenced norms such as the national ORF norms discussed above can help to gauge student learning, as can progress monitoring. Progress monitoring consists of the implementation of multiple probes over a set period of time to measure student growth (Vannest et al., 2011). Progress monitoring is important because it goes beyond simply measuring mastery of a skill; it allows teachers to determine whether students are learning at a pace that will allow them to meet long-term learning goals (Safer & Fleischman, 2005). Progress monitoring was a key component of this action research study.

Several tools exist to aide in the progress monitoring of reading fluency. One such tool, which was utilized as part of this action research study, is the Dynamic Indicators of Basic Early

Literacy Skills, hereafter referred to as DIBELS. DIBELS is a commercially available, standardized, and highly researched WCPM assessment tool used for universal screening and progress monitoring in grades Kindergarten through Sixth grade (University of Oregon Center on Teaching and Learning, 2012). Another tool useful in assessing reading fluency for the purpose of progress monitoring is the Multidimensional Fluency Scale for Reading Prosody, which provides an objective and standardized method of assessing the prosody component of reading fluency (Lambert, 2008). This action research study employed both DIBELS (Appendix B) and the Multidimensional Scale for Reading Prosody (Appendix C), in addition to curriculum based passages (Appendix D) to measure participant progress.

Stecker, Fuchs, and Fuchs (2008) expand on this idea of progress monitoring to include the display of assessment data on a graph. Individual student assessment scores are entered into a graph to show each student's actual rate of improvement. This is especially helpful when the data are used to track a student's progress toward a predetermined goal or to determine if additional interventions or alternate instructional strategies are needed (Stecker et al., 2008). This graphing method of displaying data is helpful in creating a visual representation of student growth, and was a major component of this action research study (Appendix E).

However, progress monitoring is more than simply tracking student progress. The real benefit of progress monitoring comes in the setting of goals. Shapiro (2008) studied the impact of informed goal setting on the growth of one particular student. In his study, Shapiro (2008) used initial assessment data and benchmark targets to set learning goals for one student, and that student surpassed his goal. Student growth is clearly helped by having an accurate picture of where the student was and a specific, individualized goal to work toward. The aforementioned

study is important because this action research project also evaluated the impact of student-created goals on student success, specifically in the area of reading fluency scores.

Instructional Strategies to Improve Reading Fluency

In regards to reading fluency and learning, instructional strategies are very important. Instructional strategies for reading fluency have been studied a great deal in recent history. These studies have helped researchers and educators to better understand the importance of reading fluency, how to teach reading fluency, and how fluency affects comprehension. Classroom experience has taught teachers that silent reading practice, choral reading, paired reading, and modeling are helpful in teaching reading fluency (Lambert, 2008). However, researchers encourage teachers to rely more heavily on empirically proven teaching methods (Malyeko & Gawlik, 2011).

One such research-proven method is *story innovation*, which involves taking a familiar text and replacing certain words so that the story line and most of the original text stays in tact, but character names and setting locations change (Griffith & Ruan, 2007). Students read the text, then change the characters and setting and re-read the text. This process can be repeated several times with the same original text. A study of this method found that because story innovation requires students to read and re-read similar texts, reading fluency scores are improved (Griffith & Ruan, 2007). This use of repeated readings of same or similar texts has evolved to become a reading strategy in itself.

The repeated reading strategy has been proven to be effective in improving reading fluency. Lo, Cooke, and Starling (2011) studied the effect of a repeated reading program on the oral reading rates of second grade students. Their research found that by reading a passage four to five times improved the fluency scores on grade level passages (Lo et al., 2011). While the

action research study to be conducted by this writer will not incorporate all components of the repeated reading program used by Lo et al. (2011), these findings support the use of repeated reading programs to improve reading fluency.

Furthermore, Gorsuch and Taguchi's (2010) research on repeated reading yielded three similar, but significant, findings in regards to fluency. First, when reading rates improve, improvements are also seen in both fluency and comprehension. Second, by increasing the students' engagement with text, comprehension of the text is also increased. Third, improving reading fluency skills allows for more executive function to be available for comprehension of text (Gorsuch & Taguchi, 2010). These findings directly support the use of repeated reading programs in the instruction of reading fluency.

Building on the repeated reading model, Neddenriep, Fritz, and Carrier (2011) studied the impact of providing regular feedback to students on the improvement of those students' reading fluency scores. Their research found that when given performance feedback two times per week, four of five students made significant gains in reading fluency and reading comprehension (Neddenriep et al., 2011). These findings support the use of regular feedback, and in this action research study students will be given feedback on their progress twice per week. In addition to these instructional strategies, some commercially available reading programs have also been developed to bolster reading fluency. One such program is the Great Leaps Reading Program, which incorporates model reading, repeated reading, goal setting, and using graphs to provide feedback to students regarding their progress (Begeny, Laugle, Krouse, Lynn, Tayrose, & Stage, 2010). A similar program, Helping Early Literacy with Practice Strategies, also uses repeated readings and feedback in the form of graphs to influence positive growth in students' reading fluency (Begeny et al., 2010). The use of these strategies in commercialized programs and the

empirical results indicate that repeated readings, goal setting, and the graphing of progress are all appropriate for this action research study.

The goal of this action research study is to link together conclusions formed by the aforementioned studies and explore their combine impact on the reading fluency scores of fourth and fifth grade students. Reading accuracy, rate, and prosody scores will be examined and monitored in conjunction with the use of student-centered goals, weekly progress monitoring and feedback, and traditional, repeated reading instructional methods. It is this researcher's hypothesis that student-centered goal setting and progress monitoring will have a positive impact on reading fluency scores among fourth and fifth grade students.

Method

This study sought to examine the impact of goal setting and progress monitoring on reading fluency scores of fourth and fifth grade students. This study takes place in a small parochial school in a central Illinois community of with approximately 20,000 residents. The school has classrooms for preschool through fifth grade, with an average class size of about 12 students. All of the school's teachers and administrators are highly qualified and hold current teaching certificates.

Participants

For this action research study, the participants were selected using reading fluency assessment data provided by the fourth and fifth grade teachers. Students were assessed using the Dynamic Indicators of Basic Early Literacy Skills (hereafter, DIBELS), and then ranked according to their scores. Each student's score was compared to National Oral Reading Fluency Norms and ranked in descending order, with the number one positions representing the highest scores. The students in the fifth, sixth, seventh, and eighth positions in each class were then

selected to participate in the study. Students in the first, second, third, and fourth positions were excluded because their scores potentially showed little room for improvement considering their high achievement thus far. Conversely, students in the ninth, tenth, eleventh, and twelfth were excluded because they are already participating in reading interventions outside of regular reading class. While the process for selection was the same, the fourth and fifth grade classes were ranked separately and only students in the fifth through eighth positions were included in the study. All of the other students were omitted.

This convenience sample of eight students (four from each class) included both males and female students in the fourth and fifth grades; none of which had an Individualized Education Plan or Section 504 Plan. All participants were of sound mind and able to give voluntary informed consent. Participation in this study was voluntary, and participants could withdraw at any time. A letter was sent home to **each student's** caregiver explaining the study.

Materials and Procedure

The students' reading fluency data was collected using three different instruments over the course of 4 weeks. Initially, students were assessed using curriculum based reading passages, DIBELS, and the Multidimensional Fluency Scale for Reading Prosody. This initial data was used to determine the students' reading fluency levels, which was used to select the participants.

Once participants were selected, each participant was shown his/her score and where his/her score falls in relation to the National Oral Reading Fluency Norms (Hasbrouck & Tindal, 2006). Each participant was then informed that he/she would be re-tested in four weeks and was asked to set a personal goal for improvement in the next four weeks. Students were given a

blank graph and asked to graph their initial score and to draw a horizontal line representing their goal score. The graphs provided a visual representation of the progress the students are making.

Each Monday, this researcher provided each participant with a new curriculum based reading passage and individually assessed each participant. After calculating the WCPM, this researcher gave the participants feedback about their scores and asked to graph their scores on the sheet given to them. This researcher then re-assessed the participants each Friday using the weekly curriculum based reading passages. In all, the students read and re-read four different passages throughout this study. Finally, at the conclusion of the study, this researcher re-assessed all participants with the curriculum based assessments, DIBELS, and the Multidimensional Fluency Scale for Prosody to determine individual growth of each participant.

It is important to note that these participants are typically expected to read and practice the curriculum based passages on a weekly basis. All fourth and fifth grade students continued the common classroom routine of practicing reading fluency with weekly “repeated reading” passages. Students participating in the study additionally compared their personal progress to their individually determined goals and to graph their progress on the sheets provided. Students not participating in the study continued the classroom routine of having their reading scored by the classroom teacher on Mondays and Fridays.

Results

For the purpose of this study, the term “successful” is used to indicate that significant gains were made in all three measures administered. The term “satisfactory” is used to indicate significant gains in two of the three measures or a significant gain in one measure and slight gains in the remaining two measures. Similarly, “unsuccessful” indicates gains in only one or none of the measures. Given those definitions, the student-centered progress monitoring

intervention was found to be successful for four of the eight participants, satisfactory for three of the eight participants, and unsuccessful for one of the eight participants. Table 1 displays specific data for each student.

Table 1

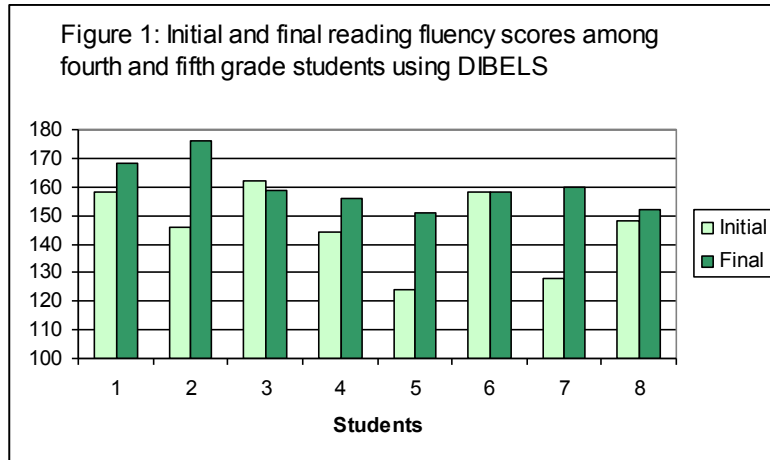
Percent of change in reading fluency scores among a sample of fourth and fifth grade students.

Student	DIBELS	Multi-dimensional Scale for Reading Prosody	Curriculum based passages
1	+6.3%	+23.1%	+20.8%
2	+20.5%	+60%	+45.5%
3	-1.9%	+36.3%	+1.2%
4	+8.3%	+25%	+38.8%
5	+21.8%	+23.1%	+24.4%
6	No change	+14.3%	+38.5%
7	+25%	+33.3%	-1.9%
8	+2.7%	+25%	+2.7%

DIBELS

The classroom teacher collected DIBELS data six weeks prior to the initiation of this study and provided to this researcher. At the conclusion of this study, DIBELS was then re-administered by this researcher to measure any gains the students may have achieved as a result of the reading fluency intervention. Overall, there was an average of a 10.4% increase in DIBELS scores. However, individual student gains ranged from -1.9% to 25%. One student

regressed slightly, while another student's scores stayed the same. The other six students made progress ranging from 2.7% to 25%. In fact, three students made gains of 20% or more.

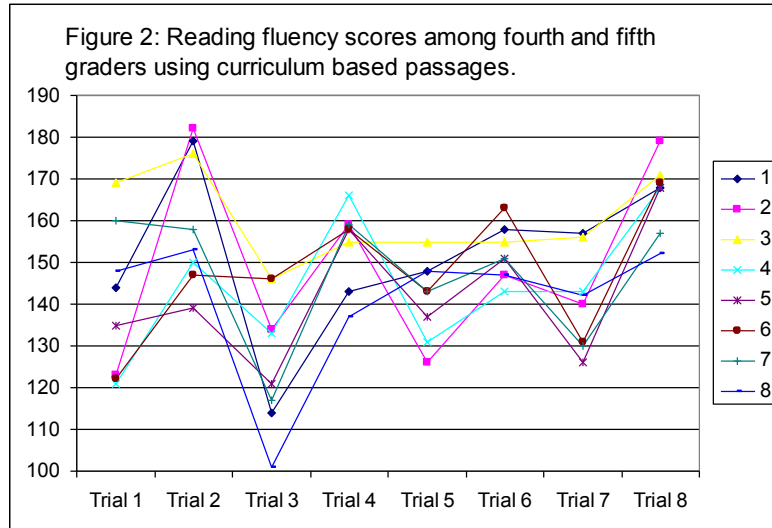


Multidimensional Fluency Scale for Prosody

This researcher administered The Multidimensional Fluency Scale for Prosody at the initiation of this study, and then again at the conclusion of the study to measure progress. As shown in Table 1, all eight participants made significant gains in the area of reading prosody throughout the course of this study. A participant identified as Gymnastics 101 increased from a score of 10 to a score of 16, which is a 60% increase. All other participants' improvements ranged from 14.3% to 36.4%. The Multidimensional Fluency Scale for Prosody is a rubric with a possible total score of 16 points, and at the initiation of this study, participant scores ranged from 10-14. However, at the conclusion of this study, all eight participants received a score of 15-16 points. **Curriculum Based Passages**

This researcher assessed each participant's reading fluency at the initiation of this study, throughout this study, and at the conclusion of this study using curriculum based reading passages. Figure 1 illustrates the participants' scores on the weekly curriculum based reading passages. While participant data was collected throughout the course of the study, only the

initial and final scores were analyzed. Seven of the eight participants made gains, however one participant regressed slightly. The gains averaged 24.6%, with a range of 1.2% to 45.5%; five participants had gains of 20% or more. Conversely, one participant identified as MusicGirl score 1.9% lower at the conclusion of this study than at the initiation of this study.



Discussion

Analysis of data collected indicates that the student-centered progress monitoring of reading fluency is a viable intervention in for fourth and fifth grade students. Of the eight participants, seven demonstrated at least some improvement in reading fluency throughout the course of this study. Additionally, for five of those seven participants who made gains, the gains were significant.

Limitations

The success of this study justifies the continued research of the use of student-centered progress monitoring to improve student achievement and learning. However, this study, like all other studies, undoubtedly had some limitations. The first of these limitations is that potential

bias does exist within this study. With the exception of the initial DIBELS data, all data was collected by this researcher. While this researcher was cognizant of potential bias in collecting data, there was no co-researcher to verify results. This potential for bias was accounted for by using objective, data-driven measuring instruments in the collection of data.

Similarly, another possible limitation is the potential for imprecision amongst the measuring instruments used. It is possible that instruments used to measure participants' reading fluency aren't completely precise. This researcher addressed this potential for imprecision by using empirically proven instruments to collect data. Both the DIBELS and the curriculum based passages used the WCPM method, which has been used and proven effective in several studies (see Lit Review).

Additionally, limitations exist in the individual personalities of the participants. Students who are naturally more shy and introverted saw smaller degrees of success with the student-centered progress monitoring of reading fluency. This could be attributed, in part, to the fact that the participants were asked to interact with the researcher, with whom students are unfamiliar. The very presence of the researcher could have caused some participants to be less comfortable, which could have impacted their performance. This potential limitation was verified by one of the classroom teachers, who stated that RunnerGirl's shy personality often causes her to under-perform.

Some other potential limitations were caused by the small number of students in the data pool. This study's findings were limited not only by the quantity of participants, but also the limited geography and the grade levels of participants. Surely, a similar study done on a larger scale would yield more solid findings. Data collected from a larger pool of participants, across a wider geographic region, and across a larger range of grade levels would be much more reliable.

Implications for Future Practice

The success of this study justifies that student-centered progress monitoring of reading fluency should be included among the interventions used in the reading classroom. This intervention definitely deserves a place within the tool belt of every fourth and fifth grade reading teacher, keeping in mind, though, that as with all interventions, the individual strengths, limitations, and personality traits of the students should be considered. The fact that the less shy, less introverted participants saw the greatest success leads this researcher to recommend that this intervention should be used more frequently with the more outgoing, extroverted students and less frequently with the more timid students. As always, professional judgment is key.

Moreover, further research will be needed to determine whether this intervention could be extended to other areas. For example, this strategy could be beneficial in the instruction of other aspects of reading or in other content areas, such as math or language arts. Similarly, further research will be needed to determine if the results obtained in this study can be verified and/or generalized to a larger sample size and/or among other age groups. Perhaps the student-centered goal setting and progress monitoring could benefit a wide variety of students in a wide variety of settings. Further research would help to determine if that were true.

Moreover, this study solidifies the action research process as one that is beneficial to both teachers and students. This study verifies that the action research process serves to objectively and empirically determine whether certain teaching techniques are beneficial to students. By using evidence-based measures and an empirical design, teachers can objectively evaluate the degree to which strategies, techniques, and interventions are successful. Likewise, students benefit by participating in and being party to learning techniques that are most likely to result in improved learning. Action research allows teachers to teach with the best techniques, which

results in greater student learning overall. In the end, the learning and success of students is really what education is all about, isn't it?

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