

Abstract

How Will Instruction in Decoding Strategies Affect Fluency and Reading Rate?

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In this case study, a student who had difficulties with fluency and reading rate was found to have inadequate decoding skills as compared to his same-aged peers when attempting to read unfamiliar words. Since the student was in his last year in high school, the researcher, a cross-categorical high school teacher, wanted to provide him with as many literacy skills as possible in hopes of helping him be successful in a post-secondary educational institution. After collecting baseline data, a few specific areas of difficulty emerged, and lessons and activities were planned around specific decoding patterns. Following the intervention, the student's fluency and rate were evaluated again. Post-intervention data showed improvement in fluency skills, but a decreased reading rate (words per minute).

Data Collection Methods: ASSESSMENT DATA, CASE STUDY, DISCUSSION

Study Descriptors: CROSS-CATEGORICAL, LITERACY, READING, SPECIAL EDUCATION

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Introduction

In all honesty, I embarked in Classroom Action Research for a basic need. No, not the need for examining my teaching methods (although even I can admit that I have room for improvement); my need was money. I enrolled in Classroom Action Research to earn graduate credit to work toward an increase in salary. The need for money came from my husband's loss of employment last year. With income short in our household, my intention was to take this course to increase my salary in the district's pay scale; however, the gains from Classroom Action Research have been great for other reasons, which I will discuss later in my paper.

I have taught at Memorial High School for seven years; however, this is only my second year teaching reading. I was offered the position after the previous teacher was promoted and I completed my Masters Degree in Reading. Currently, I teach two sections of Scholastic's Read 180 program to students in special education. Scholastic's website states, "*READ 180* is a comprehensive reading intervention program proven to meet the needs of struggling readers in transitional Grades 3–12. The program directly addresses individual needs through differentiated instruction, adaptive and instructional software, high-interest literature and non-fiction, and direct instruction in reading, writing, and vocabulary skills" (Scholastic). The students in my Read 180 courses have varying sets of individual needs, although most are reading below grade level. Students' reading levels are referred to as Lexile scores. A Lexile score is a measurement of a student's reading ability which is determined by a computerized reading assessment called the Scholastic Reading Inventory (SRI). While taking the SRI, students are required to read short passages and fill in blanks to complete sentences that assess the comprehension of the passages they just read. Students give answers in a multiple choice format. The passages start out at or below students' reading levels and progressively get more difficult as they choose the correct answers or become easier if students are choosing incorrect answers. A range of Lexile scores may be roughly converted into reading levels by grade. My students' Lexile levels range from BR (beginning reader) to a 1200 Lexile (between a ninth and eleventh grade reading level). Their labels in special education vary. Many students struggle with multiple disability areas. My

students are labeled with learning, emotional, and/or cognitive disabilities. Many also struggle with attention and second language difficulties. The racial backgrounds of my students are as follows: 73% Black, 14% White, 9% Hispanic, and 5% Asian. Although my hope was for all students to gain literacy skills from the intervention, my focus was on one student who I have grown close to in the last two years, Sam.

Sam (student's name has been changed) is an eighteen-year-old senior who attends Memorial High School and plans to graduate this spring. Sam strives to be successful in all aspects of his life and is eager to learn. He is a talented athlete who plays football and runs track at Memorial as well as participates in a community basketball league. He has hopes of attending a post-secondary institution and continuing to play football. He is unsure of what he would like to study, although he has interests in architecture. Sam receives special education services for a Specific Learning Disability in the areas of reading, written language, and mathematics. His schedule during second semester is quite sparse. He was unable to be successful in English 12 and Geometry (both general education classes), so both courses were dropped second semester. He is currently taking courses in reading (special education), civics (special education), ethnic studies (general education), and furniture and cabinetry making (general education). Sam has struggled academically since his early elementary years and has holes in his learning. He moved around frequently as a young child and did not attend the same school for an entire school year until the sixth grade. He missed instruction completely during his kindergarten and first grade years.

Due to missed instruction, Sam does not have strong phonics skills. His fluency is affected, making his reading slow and laborious. While reading, he often guesses on unknown words based on the first few letters, often leaving off endings completely. Although he has difficulty with decoding and fluency, Sam has a strength in auditory learning and comprehension. When text is read aloud to him or he is participating in a discussion or listening to lectures, Sam's comprehension is strong, as shown with his strong recall and comprehension of texts he has read independently or texts that were read aloud to him.

Purpose of Study

The purpose of this intervention was to equip Sam with additional decoding skills so he could more easily navigate through text that contained unfamiliar words. So, how could I use my

Classroom Action Research to help Sam? Although acquiring my question was a long, at times headache-inducing process, I feel that in the end I successfully achieved a functional and manageable intervention. With that in mind, my question is: ***How will instruction in decoding rules affect Sam's fluency and reading rate when given unfamiliar text?***

Through the data collection, I gathered specific information about the decoding errors that Sam was making. For my intervention, I utilized that data to structure mini lessons that explicitly taught specified decoding patterns to all my students. Following the intervention, I assessed Sam's fluency and rate and discussed with him his strategies for decoding.

Data Collection

I used the following items to collect data that would allow me to unearth specific patterns in Sam's decoding errors: The *Flynt Cooter Informal Reading Inventory* (1999), a *Nonsense Word Assessment* (Scholastic, 2001), a primary level spelling test, pre- and post- fluency assessments, the *Scholastic Reading Inventory*, and a student discussion.

Scholastic Reading Inventory

When the intervention began, Sam's Lexile was 660, which is between a third and a fourth grade reading level. An SRI was given about two months before the intervention began. Another SRI was given during the intervention, which is routine practice in Read 180. On the second assessment Sam scored a Lexile of 817, which is between a fifth and sixth grade reading level. This is a net gain of 157 lexiles, which is almost two years growth in the program, in a three-month period of time.

Flynt Cooter

The *Flynt Cooter* (1999) is an informal reading assessment that provides the assessor with specific information about an individual's reading skills. First, students read sentences to determine what level passage the initial assessment should begin. Students are instructed to read the passage silently, then they are asked to verbally recall the information within the passage. Following the student's verbal recall, the assessor may ask him or her the remaining comprehension questions. This is a way to assess an individual's comprehension of a passage. Next, the student reads the passage aloud. During this time, the assessor tallies his or her errors

in the following areas: mispronunciation, substitution, omission, and insertion. In addition, the assessor should make notes of times when the student asks for the assessor's assistance, self-corrects, and/or when a student's specific error disrupts the meaning of a sentence. I chose to use this assessment to evaluate what types of errors Sam was making while decoding.

Nonsense Word Assessment

The *Nonsense Word Assessment* (Scholastic, 2001) is a list of words that a student reads aloud to an assessor. The assessor notes the way the student is decoding the words, which indicates if students are familiar with specific decoding rules, including words that have short vowels, long vowels, digraphs and blends, vowel diphthongs, multi-syllabic words, and words with r-controlled vowels. I chose to use this assessment to identify the specific decoding errors that Sam was making in order to see if specific trends emerged, so I could, in turn, provide an intervention to accommodate those needs.

Primary Spelling Assessment

The *Primary Spelling Assessment*, adapted from *Words Their Way* (2004) is a list of spelling words that contain short vowel sounds, long vowel sounds, digraphs, blends, diphthongs, and r-controlled vowels—many of the same areas assessed in the *Nonsense Word Assessment*. I chose this assessment to see which errors Sam made in his spelling of the words and compare them with the errors he made on the Nonsense Word Assessment (Scholastic, 2001).

Fluency Assessment (Pre/Post)

Sam's fluency with unknown text was assessed before and after the intervention. I had Sam read an unfamiliar one hundred-word passage in which I assessed his reading rate per minute and analyzed his decoding errors. The reason I chose to test Sam's fluency before beginning the intervention was to get baseline data regarding his expression and volume, phrasing, smoothness, pace, and rate while reading aloud. A fluency rubric was used to score Sam before and after the intervention. In addition, I calculated the number of words he correctly read per minute. I performed the same assessment, with a different unfamiliar text, following the intervention to see if Sam made improvements in fluency and reading rate.

Student Discussion

At the conclusion of the data collection, I met with Sam individually to read with him and think-aloud about strategies he uses when he encounters a word he does not automatically recognize.

Data Analysis of Pre-Assessments

Flynt Cooter

Although Sam's Lexile score would be considered within the primary level, I selected all expository passages for him to read for this assessment, as the narrative passages were too juvenile. In addition, most of the reading that Sam was required to do for school was non-fiction, expository text.

Sam scored at level 4 following the reading of the sentences to determine initial passage selection; however, I began testing him with the level 3 passage so he would feel successful early on during the evaluation process, as recommended in the administrative guidelines. Sam was able to answer all the comprehension questions correctly after he read the passage silently (See Table A).

Table A

Level 3	Unassisted	Prompted	Total
Comprehension Questions Answered Correctly	50%	50%	100%

While reading aloud, Sam made a total of 11 errors, including errors in mispronunciation, substitution, omission, and insertion. When Sam came to a word he did not automatically recognize, he would either skip the word, or guess the word based on the first letter (See Table B and C), even if the word he used affected the meaning of the sentence. Sam omitted the following words and phrases: *biting ones*, *long*, and *tongues*. In addition, Sam often did not look at some words in their entirety because he left off endings of words.

Table B

Level 3	Mispronunciation	Substitution	Omission	Insertion
Decoding Errors	1	5	4	1

Table C

Text within Level 3 passage	Substitution Errors
tiny	thin
these	their
can't	can
bite	bit
chew	cry

Due to the great number of oral reading errors, level 3 was considered to be a passage that was too difficult for Sam to read without assistance, so I decided to administer the level 2 passage (See Table D and E). Sam was able to find more success with this passage. Sam was able to answer all comprehension questions correctly through retelling or prompted questioning. He only made two decoding errors and neither of the errors affected the meaning of the passage.

Table D

Level 2	Unassisted	Prompted	Total
Comprehension Questions Answered Correctly	63%	37%	100%

Table E

Level 2	Omission	Insertion
Decoding Errors	1	1

Nonsense Word Assessment

During the *Nonsense Word Assessment*, Sam showed a relative strength in the area of short vowels; however, on the sample words, he had two errors in which he gave a long “o”

sound for a short “o.” While reading the nonsense words, Sam often inserted sounds within words that did not contain the letters that made those particular sounds. For example, he inserted the sound /f/ in the nonsense word *weam* and read *wifa*. Another example is when he read the nonsense word *rown* as *rong*. As I analyzed Sam’s errors, I was able to see some patterns in which I could focus my intervention.

Primary Spelling Assessment

On the *Primary Spelling Assessment*, Sam made similar errors to those on the *Nonsense Word Assessment*. See Table F for my error analysis.

Table F

Word Given	Sam’s Spelling	Error Analysis
Rob	Rop	Letter reversal
Wait	Wight	Vowel sound/letter combination confusion
Chunk	Chunck	Missing knowledge of –unk ending
Shine	Shian	Missing knowledge of –vce rule
Fright	Fight	Omitted sound
Snowing	Snowning	Added sound
Thorn	Thone	Omitted sound
Chirp	Charp	r-controlled vowel error
Clapped	Claped	Missing knowledge of double consonant rule
Tries	Tryes	Missing knowledge of changing the y to i
Hiking	Highting	Missing knowledge of –vce rule

Given the lack of instruction time to address all of Sam’s difficulties, I decided to pull out themes from errors that were seen in this test and the *Nonsense Word Assessment* (Scholastic, 2001). Based on the data collected from these two evaluations, I decided to provide Sam with

instruction in the following areas: *-vce* words, the diphthong /ou/ (ou, ow), and the r-controlled vowel combinations /air/ (air, ear, ere, eir), /ur/ (er, ir, ur), and /ar/ (ar).

Fluency Assessment

Pre-tes:. To assess Sam's fluency skills, I had him read orally from the book he was reading during independent reading time, *Hero Type* by Barry Lyga. He had not previously read the selected pages, so the text was unfamiliar to him. This book was at his independent reading level. At the time of the assessment, Sam's Lexile score was 660 and his book had a Lexile level of 670. During the reading, he made two omissions and one insertion—none of the errors changed the meaning of the passage. It was clear that the passage was at his independent level, or below, due to the minimal errors, but his rate was very slow and laborious, at 91 words per minute, which is within the normal reading rate range for a second or third grade student in the spring of their respective school year (Rasinski). When graded with a fluency rubric, he scored a 5 out of a possible 16. He read very quietly without expression. He read word by word, instead of reading in phrases. His reading was very choppy and not fluid; he paused and hesitated a lot as he was trying to decode words he did not recognize automatically. This rubric will be used to score Sam's fluency at the conclusion of the intervention as well.

Intervention

While I analyzed the pre-intervention data, I looked specifically at the areas Sam was struggling with as he was decoding. Due to Sam's difficulties with decoding, he took a long time to read text, even when it was at his independent reading level. Although his comprehension did not seem to be compromised much, my intention was to give him the skills needed to decode unknown words faster to increase his overall fluency and reading rate.

For roughly eight weeks, all students in my Read 180 classes participated in the intervention, although I tracked only Sam's progress. The intervention consisted of mini lessons within large and small group instructional environments. Each decoding pattern was focused on for about one to two weeks. The large groups consisted of up to twelve students, while the small groups consisted of up to four students. I focused my instruction on five common decoding patterns that Sam had difficulty with during data collection. Here are some of the lessons I taught:

Listing. Often, as a way to introduce a mini lesson on a new combination, I would have students list words that included those sounds or patterns. For example, before we discussed the diphthong /ow/, I wrote on the board, “List as many words as you can with the sound “ow” in them...like what you say when you stub your toe.”

Sentence errors. As another warm up activity, I would write sentences that contained words with particular decoding patterns. I would spell specified words incorrectly, and students were responsible for finding and correcting the errors in the sentences.

Word Wall. At the conclusion of the lessons on a couple of the decoding patterns, I gave students colored paper and markers and had them create a word wall with words that contained a particular pattern. They actively constructed each word card and hung them on the classroom wall, where they remained until the conclusion of my intervention.

Fill in the blank. To assess students’ comprehension of words, as well as their overall bank of knowledge, they were given worksheets that contained sentences and blanks. They were required to read the sentence and come up with a word with a particular decoding pattern to fill in the blank and complete the sentence. Sometimes they were given a word bank and sometimes they were not. For example, while studying the /air/ decoding pattern, one sentence looked like this: *To get to his bedroom, he had to climb the _____ (stairs).*

Writing. In a number of writing activities that went along with the Read 180 workshops, students were required to use the vocabulary from their reading, as well as words that contained the decoding patterns we were working on.

Reading. Many times, as an extension activity to what we were already doing, I would have students identify the decoding patterns within the readings we were working on. Sometimes it was just one pattern, and at other times it was multiple patterns at once.

Partner Practice. I also had students read the patterns in isolation. Students would partner up and practice reading a list of words. I would then come around and listen to each student read a selected list of those words aloud.

Findings

Student Discussion

Before giving Sam a final fluency and rate assessment, I wanted to have a discussion with him about what he does when he reads and gets to a word he is unable to decode automatically. I

chose a text for us to examine that was within his current Lexile level, *The First Part Last* by Angela Johnson (790 L). I began reading aloud, until I reached the word *obstetrician*. I began to “think-aloud”. First, I started to chunk the word into decodable pieces for Sam to hear. I also reread the sentence to try to figure out the meaning from the context. Then, I instructed him to read aloud and “think-aloud” when he got to a word he was unfamiliar with. During our reading, Sam had difficulty decoding *nasty*, *hallucinated*, *idiot*, and *fruit*. He shared with me that when he does not automatically know a word he will pull apart the decodable sections, try to sound the word out, read the entire sentence to look for context clues, or just skip the word.

Fluency Assessment

Post-test. To assess Sam’s post-intervention fluency skills, I had him read orally from a book that I chose that was within his Lexile level. Note: When we began the intervention, Sam’s Lexile level was 660. During the intervention Sam’s Lexile level had risen to 817. Although, he was still reading *Hero Type* by Barry Lyga during independent reading time, I wanted to know how Sam’s fluency skills were with text within his independent reading level (not below). For the post-assessment, Sam read a passage from *Rucker Park Set Up* by Paul Volponi, which has a Lexile of 790. During the reading, he made three insertions; one of them changed the meaning of the sentence. Sam’s reading was still very slow and laborious. There were multiple times when he repeated phrases he had already read, which slowed down his rate considerably. His reading rate was 67 words per minute, which was significantly slower than his initial fluency assessment. However, some gains should be noted. Instead of reading word-by-word, in a monotone, quiet voice, Sam’s intonation was more rhythmic and smooth compared to his initial reading. When graded with a fluency rubric, he scored a 7 out of a possible 16.

When Sam and I began this last fluency assessment, he was having a really hard time staying focused. We actually had to stop twice and start over, so I could not use the initial part of his reading sample for my data, because the point was for the assessment to be with unfamiliar text. However, I found that this data was kind of interesting to include. Sam had already read through this portion of the text twice before I took this particular rate assessment. Sam was able to read 117 words per minute on his third read. He made 7 errors, including 2 omissions and 5 insertions—none of them changed the meaning of the text.

Summary of Results

There is no doubt that Sam has made miraculous gains while participating in the Read 180 program. Just during this intervention, he made a remarkable Lexile gain of almost two school years. I think this proves the validity of the Read 180 program, as well as shows the skills he learned and utilized through this intervention.

The post-intervention data showed that Sam has strategies to use when he encounters an unknown word. The data also showed that he made gains in the area of intonation, increasing overall fluency rubric score. Sam's reading rate was significantly lower than the pre-test, but he was somewhat distracted during testing and he was reading more difficult text when compared to his pre-test reading.

Lastly, data showed that with multiple readings, Sam's fluency and rate both increase.

Conclusions

As I reflect upon my action research, I am a bit surprised by the findings, although I feel like the results have triggered some deeper thought on my part. I don't think I took into consideration that Sam's Lexile level would change so drastically throughout this process. A gain of over 100 within a few months is not heard of very often. As I looked back on his pre-intervention fluency data, I wondered if maybe his Lexile was not accurate at that time, maybe it was truly higher. Although even if it was higher, he still wasn't reading fluently with unknown text, so I guess that is irrelevant. Then I also wonder, did the intervention assist in raising Sam's Lexile level? I have to hope that this intervention assisted with increasing his Lexile level.

Let's revisit my question: *How will instruction in decoding rules affect Sam's fluency and reading rate when given unfamiliar text?* According to the fluency rubric that I used (Rasinski), Sam made a gain in intonation, increasing his score on the rubric. However, his reading rate was so slow. Although, I can gather that if I had him read a passage at the same Lexile level that he did before the intervention, I'm confident that he would have shown gains in rate. This point is also irrelevant because I *want* him to increase his reading level, so assessing his fluency skills at his current reading level was really the only way to go.

Then, I can't ignore the impromptu fluency data I got from Sam's multiple readings of the same text. Obviously, this data shows that the more Sam reads a text, the more fluent of a reader he becomes. This was something that I knew about Sam already (and really about any

reader), but it made me think about how this will affect him next year when he is in college. Will he have the time and self-motivation he will need to reread his texts?

So, what will Sam do when he gets to college, besides party, meet new friends, and learn a lot about himself? Sam is a young man who is really going to need to utilize the resources that are available to him, and I truly hope he can put away his manly façade to advocate for himself as a learner. Sam is an intelligent young man. With all the holes in his early learning, he has come so far and has a well-rounded knowledge about the world around him---he is just reading well below grade level. I know he will not be able to read college level texts. He will need to be accommodated with a reader or some sort of technology that will read aloud the text to him. If he is provided with that, I feel that his comprehension is strong enough for him to be able to get through the work. His writing skills are also well below grade level, so once again, he will need some technology and some amazing tutors and proof readers to help him through the work.

I knew these couple of months of intervention were not going to create miracles for Sam's reading fluency and rate, but I feel like our time together has provided Sam with addition skills that will assist him in meeting his future goals. I just hope he keeps in touch to let me know how it all goes.

Implications

Sam is such a unique student because he struggles with decoding but has such a strength in comprehension. I'm not sure I will run into another student who has similar difficulties as his. I think there is value in teaching students decoding patterns, because many students were never taught the patterns or they never retained many of the "tricks" that would help them decode larger, unfamiliar words they come across in their reading. I wonder if I would have used another student to follow during this intervention if he or she would have shown more dramatic results with his or her fluency and rate. If I could do the intervention over, I would have used additional students' data along with Sam's. Sam's mixed results weren't really what I was hoping for as I examined my own teaching methods. I was hoping he would have made larger gains in fluency and rate. However, I am content with the gains he made in fluency and the amazing gains he made in his Lexile level just this school year.

I feel that the CAR experience gave me a chance to try an instructional strategy to help a student that I may not have tried, or even thought to try, otherwise. Meeting and discussing my

students with the other members of the CAR team gave me a chance to see the needs of my students from an alternate angle, which created some challenging and educational moments for me as an educator. If given the opportunity, I would definitely do CAR again for the collegial experience with my CAR teammates and for the exploration of my own teaching practices.

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