

Probing the Enactment of Reading Miscues: A Study Examining Reading Fluency

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Abstract

Subsequent to the National Reading Panel's (2000) report, more researchers have been examining the role that reading fluency plays in the development of a child's reading skills. This study investigated the efficacy of the National Reading Panel's research claim that a child learns reading fluency skills mainly through phonics and decoding instruction. Using a methodology to track the source of reading miscues, this paper demonstrates that a student's cultural and semantic knowledge of text vitally influences the development of reading fluency skills. Specifically, the findings suggest that a child culturally enacts reading fluency both through graphophonic and semantic knowledge of words. In the process of cultural enactment, reading fluency embodies a complex interplay between graphophonic understandings and a student's cultural domains. Lastly, this work theorizes the role that cultural and semantical influences play in the role of a student acquiring reading fluency.

Keywords: fluency, graphophony, phonics, reading, semantic

1. Introduction

The National Reading Panel (NRP; 2000) inaugurated a cornerstone policy directive when it emphasized that reading fluency is a result of decoding and phonics skills. The NRP's statement focused on decoding and phonics skills and has essentially set a policy directive informing how early literacy skills are taught and studied. The impact of NRP's work can be seen most clearly in the enactment of the Common Core Reading Standards (Common Core State Standards Initiative, 2010). NRP and the Common Core State Standards Initiative produced numerous research papers emphasizing the central role that decoding and phonics play in the development of reading. Perry (2012) noted that subsequent to the publication of the NRP (2000) report, school literacy policies and practices were changed to align with the report's assertions. Perry understood NRP as a type of cognitive/psycholinguistic approach to reading and suggested that the Common Core Reading Standards were a direct result of NRP policies.

The NRP focused exclusively on a particular type of reading instruction, centered on phonics and decoding. This narrow understanding of reading instruction has greatly influenced national policies, such as the National Early Literacy Panel (2008) report and the Common Core Reading Standards (Common Core State Standards Initiative, 2010). As a result, the NRP singled out reading fluency as one of its essential foci and measured it in specific psychometric ways that may not reflect how children use this skill. Acknowledging the importance of developing strong reading skills, this current study investigated the usefulness of the NRP's claim that reading fluency is primarily established using phonics and decoding skills.

Perry (2012) underscored that the NRP's (2000) report and the Common Core Reading Standards (Common Core State Standards Initiative, 2010) are prime examples of a cognitive/psycholinguistic approach to literacy. The cognitive/psycholinguistic perspective embraces decoding, phonics, and fluency as central aspects of its reading policies. The popularity of reading fluency in the wake of the NRP report has created a market to measure the construct. Indeed, reading fluency assessments abound: The 3-Minute Reading Assessment, Dynamic Indicators of Basic Early Literacy Skills, Scholastic's Oral Assessment Calendar, and the Qualitative Reading Inventory are only a few of those currently available. These psychometric reading assessments, however, may offer little insight into how children acquire reading fluency. Additionally, the assessments' coding of errors is relatively one dimensional. Too few researchers have investigated how students become fluent readers. Instead, many researchers and policy makers have relied on skill development directives from the

cognitive/psycholinguistic framework and its interventions. This research centers on how a student learns reading fluency and what skills, dispositions, and sociocultural influences account for the acquisition of this skill.

Because of the NRP (2000) report and the abundance of research that has followed, this study investigated how a student demonstrates reading fluency. Long before the NRP report, Goodman (1973, 2006) developed a reading miscue analysis tool that allowed teachers to understand a student's oral reading mistakes. Goodman's work underscored that a child often cobbles together different knowledge sets to read and that miscues were often a result of complex sociocultural factors—not simply decoding or phonemic mistakes. Goodman (1973) stated that a child often uses understanding of syntax, prior knowledge, graphophonic insights, and other skills when reading text. Theurer (2002, 2010) also conducted miscue analysis studies and reviewed the cognitive/psycholinguistic perspective that informs NRP's understanding of decoding, phonics, and, ultimately, comprehension. Building on Goodman & Theurer's work, this article follows a struggling reader and studies the ways in which he demonstrates fluency. Two primary questions informed the direction of this work.

Research Question 1: What role do decoding skills play in the development of reading fluency?

Research Question 2: To what degree does a student's semantic understanding of texts inform his ability to read fluently?

1.1 The Cognitive/Psycholinguistic Perspective

Cognitive/psycholinguistic researchers often overlook the importance of the theoretical understanding of literacy. As a result, they narrowly define reading fluency as solely a psychological concept. Ehri (1999), Shanahan (2005), and Shaywitz (2003)—all contributing members of the NRP—posited an uncomplicated definition of fluency that centers on decoding and phonics skills. Ehri, Shanahan, & Shaywitz are all well-known researchers of what Perry (2012) described as the cognitive/psycholinguistic approach to literacy. Following the NRP's (2000) model, cognitive/psycholinguistic researchers have persistently contended that fluency is the central key to further reading development. A phonics-centered approach to reading fluency has carried the day, greatly informing the focus of much of early reading research. However, as Goodman (1973, 2006) has noted, fluency's primacy was once a strongly contested area. Indeed, reading research historically questioned and investigated more fully how a child demonstrated reading fluency. To date, aside from the cognitive/psycholinguistic perspective, too little is known about how fluency is acquired, and there are too few empirical studies in this area. Consequently, cognitive/psycholinguistic-oriented researchers, rooted in methods of positivism, have fully dominated fluency research. Following the example of Goodman, this study underscores the need to more fully investigate the claims of the cognitive/psycholinguistic perspective. The steps by which distinct reading skills coalesce into fluency are likely to remain a contested area.

1.2 Research Problem

Theurer (2002, 2010) described an alternative theory of reading fluency development. Theurer's research contested the knowledge claims of fluency researchers like Ehri & Nunes (2002); Chard, Vaughn, & Tyler (2002); Rasinski (2004); and Rasinski & Nageldinger (2016). Building on Theurer's work, in this project, I investigate the assertions of fluency researchers in the wake of the NRP (2000) report. To a degree, reading fluency may be a form of cultural enactment that integrates a student's graphophonic familiarity with semantic knowledge. As a result, this study examines the empirical evidence in light of both NRP's and Theurer's claims about how reading fluency develops.

In preparation for this work, I conducted a comprehensive examination of the research on fluency. It was apparent that the microprocesses by which a student attains fluency had not been closely examined. Nevertheless, the cognitive/psycholinguistic framework took a distinguished role in the learning-to-read research. The cognitive/psycholinguistic researchers touted fluency as the key to reading development, despite the fact that few studies examined the microprocesses involved in fluent reading. A goal of this study is to examine the microsteps by which a student displays reading fluency while comparing the findings to those of the NRP (2000). Additionally, this article considers the extent to which reading fluency skill is solely a part of decoding and phonics skills.

1.3 Literature Review

1.3.1 Reading Fluency

In the years since the NRP (2000) report, fluency has become a major focal point of elementary reading programs. In particular, the knowledge claim that phonics skills lead directly to reading comprehension was, perhaps erroneously, solidified in the literature. In turn, a phonics approach developed, informing much of the

current early reading instructional practice (Chard et al., 2002; Ehri & Nunes, 2002; Perry, 2012; Rasinski & Stevenson, 2005). This cognitive/psycholinguistic approach to reading centers on phonics and decoding skills and tends to overlook other factors in the reading developmental process. In this review, I examine the cognitive/psycholinguistic approach to reading, its underlying suppositions about fluency, and how these ideas inform instructional practice.

1.3.2 Overview of Fluency

Many researchers contend that fluency is the central gateway to reading development. For example, Adams (1990), Dahl (1974), Kuhn & Stahl (2000), and Rasinski (2004) argued that fluency comprises a complex set of skills that are demonstrated in accuracy, automaticity, and prosody. Chard et al. (2002), LaBerge & Samuels (1974), Rasinski (2004, 2016), and Rasinski & Nageldinger (2016) contended that when a student reads more fluently, reading comprehension increases. The cognitive/psycholinguistic perspective contends that if students read fluently, they have mastered the surface aspects of text and can therefore assign more mental energy to reading comprehension.

Many have argued for fluency's central role in successful reading (Chard et al., 2002; Kuhn & Stahl, 2000; Fuchs, Fuchs, Hosp, & Jenkins, 2001). For example, Rasinski (2004) wrote, "Reading fluency refers to the reader's ability to develop control over surface-level text processing so that he or she can focus on understanding the deeper levels of meaning embedded in the text" (p. 46). As first argued by LaBerge & Samuels (1974), researchers in the wake of NRP (2000) contended that fluency is the fundamental link to comprehension. The more effortless that word recognition is, the more focus can be placed on understanding what is read (Fuchs et al., 2001). Cognitive/psycholinguistic theory tends to describe reading fluency in three distinct areas: (a) word recognition, (b) automatic processing, and (c) prosody.

Word recognition accuracy refers to a student's ability to sound out the words in a text with minimal miscues. It is a critical aspect to researchers who believe in the importance of reading fluency. According to Hudson, Lane, & Pullen (2005), "strong understanding of the alphabetic principle, the ability to blend sounds together, and knowledge of a large bank of high-frequency words are required for word-reading accuracy" (p. 703). Poor accuracy has implications for reading comprehension and may result in reading underachievement (Chard et al., 2002; Ehri & Nunes, 2002; Fuchs et al., 2001; LaBerge & Samuels, 1974; Rasinski & Stevenson, 2005).

The focal point of the word recognition argument centers on the reading development stage when students struggle to perform this task. The bulk of the existing research maintains that word recognition errors can change the meaning of the text and may be especially detrimental to students' understandings of the information presented (Kuhn, Schwanenflugel, & Meisinger, 2010). According to these researchers, when students cannot accurately recognize words from memory, they must use phonics skills to decode them.

The research on word recognition has led to interventions that employ phonics and decoding skills (Kuhn & Stahl, 2000; Miller & Schwanenflugel, 2006). In a review of the literature, Kuhn et al. (2010) stated that students need these skills to blend sounds in order to form words from their component parts. Without decoding and phonics skills, students are not able to identify the sounds created by letters or combinations of letters. Students also struggle to decode blend phonemes, read common patterns across words, or combine both letter-sound and meaning cues to determine the proper pronunciation and the contextual meaning of the text (Miller & Schwanenflugel, 2008).

A second focus of fluency research is automatic processing—the speed at which students decode words. Decoding words should require as little mental effort as possible so that the students can dedicate meta-cognition to comprehension (Hasbrouck & Tindal, 2006; Moors & DeHouwer, 2006). Researchers observe automatic processing through direct observations of a student's oral reading rate. As the student matures, the student's fluency reading rate improves. Rasinski (2004) asserted that a straight forward way to assess automaticity is to have the student read an independent-level passage orally for 1 min and calculate the percentage of words read accurately. Students who fall 20% to 30% below the target rate for their level require additional learning accommodations to improve automatic processing.

Prosody, the third subcategory of reading fluency, is the naturalness with which students express themselves with phrasing and voice inflection while reading (Kuhn & Stahl, 2000). Hudson et al. (2005) measured students' reading prosody through observation of oral reading. One way to assess prosodic reading is to listen to students read a passage on their independent level and then judge the quality of reading with a rubric that evaluates expression, phrasing, smoothness, and pace (Miller & Schwanenflugel, 2006, 2008; Rasinski, 2004). Hudson et al. (2005) added that a teacher should listen to students' voice inflections and phrase boundaries and use a checklist to assess oral reading prosody.

1.3.3 Cognitive/Psycholinguistic Models of Reading: Phonics and Its Relation to Reading Fluency

As noted above, much of the fluency research has argued that reading is mostly a cognitive/psycholinguistic process. As a result, phonics became an essential component to this research and its primary area of instructional focus and assessment. The cognitive/psycholinguistic body of research asserts that phonics and decoding, not semantic understandings of text, constitute the process by which students learn to read. Research promoting reading fluency stresses letter-sound correspondence to decode words. As a consequence of NRP (2000), phonics retook its cornerstone position for reading instruction in American schools.

Fluency became a focal point in NRP's (2000) research, even though NRP tended to simplify its definition and overlook previous work in this area of research. NRP underscored fluency's importance and specified how and why it should be a central aspect of reading education. Reflecting on NRP, Shanahan (2005) noted that "these studies led to a definite conclusion that systematic phonics instruction gave children a faster start in learning to read than responsive instruction or no phonics instruction" (p. 9). NRP found that phonics instruction improved word recognition, spelling skills, and reading comprehension for kindergarteners and first graders and improved word recognition skills for second graders. Word recognition, fluency, and phonics instruction became the foundational concepts in a new era of early reading instruction.

2. Methodology

Research began in February and ended in June of the same year. I met twice weekly with a first grade student named Xavier (pseudonym) who attended a public elementary school in New York City. Sessions were conducted one-on-one with Xavier in the school library and in unoccupied classrooms. Each session was approximately 1 hr long and aimed at creating appropriate learning accommodations to improve Xavier's reading fluency. Using iMovie, I tracked each instructional session/intervention. Additionally, because of Xavier's reading difficulties, I provided specific accommodations when necessary. Accommodations included modeling fluent reading, prompting him to tap out words, and reading the lesson's text aloud. In conversations with Xavier, I asked about his interests and used his feedback to present text options.

This study employed multiple methods to inquire about the nature of reading fluency. By setting out to examine the microsteps of reading fluency, I sought to determine the degree to which reading fluency practices were rooted in phonics or semantic knowledge. The design accounts for three distinct data points that serve to triangulate how Xavier demonstrated reading fluency. In the triangulation, running records and miscue analysis were used to determine whether fluency was enacted through decoding or semantic knowledge. This methodology is informed by Goodman (1973, 2006) and Goodman, Watson, & Burke (2005). Goodman et al. posited that miscue analysis provides a window through which reading mistakes can be understood. Similar to Garfinkel's (2002) idea about social inquiry, the account of Xavier becoming a fluent reader also serves as a type of ethnomethodology, which informed considerations about fluency development. Abiding by the parameters of triangulation, the three data sources consisted of the recorded video interventions, numerous miscue examinations, and the results of running records and timed readings.

Oral reading miscue analysis was grounded in the work of Goodman (1973, 2006). Also informed by Theurer's (2002, 2010) work, this design used a qualitative miscue analysis inventory to record the results. Using this model, I focused on the rich information that was gathered when Xavier read. This study's miscue analysis was fully informed by Leslie & Cadwell's (2016) Qualitative Reading Inventory 6 (QRI 6) and Pearson's Developmental Reading Assessment, 2 (Pearson, 2009). I also examined the running records and timed measures of readings from interventions. Finally, I reviewed the footage and transcribed and analyzed the interventions. Using Roth's (2006) transcription convention, I coded the data by zooming and focusing on video that captured Xavier's encounters with reading fluency.

LeCompte & Schensul's (2010) and Schensul & LeCompte's (2013) notions of triangulation informed both the research design and the data analysis of this work. The concept of triangulation has a long history in the field of social sciences. For example, Jick (1979) used the intersection of similar data points, derived from different methods, to substantiate a researcher's claims. Jick outlined how qualitative and quantitative methods could be analyzed using triangulation to measure the degree to which a knowledge claim could be validated. Denzin (1978, 2012) defined triangulation as a combination of methodologies in the study of the same phenomenon. I employed Schensul & LeCompte's (2013) understanding of triangulation because it afforded the opportunity to examine the empirical data in nuanced ways. In the presentation of the findings, triangulation is paramount because the data points chart the steps that Xavier needed to take to demonstrate reading fluency.

I recorded over 30 hr of video during the study. I used a procedure identifying a priori and inductive approaches to produce codes identifying graphophonic and semantic strategies. Xavier's errors were categorized as either

contextual or graphic-sound miscues, using Leslie & Caldwell's (2016) QRI 6. This qualitative miscue analysis inventory provided a tool that could determine the semantic and syntactic acceptability of each word read. Additionally, the QRI 6 allowed us to analyze the beginning, middle, and end graphic-sound similarity of each miscue to the text itself. Lastly, the QRI 6 supplied a way to record the word attack strategies that Xavier used when he was unable to identify a word automatically.

3. Presentation of Findings

3.1 Research Question 1: What Role Do Decoding Skills Play in the Development of Reading Fluency?

This section summarizes the findings based on Xavier's readings. Xavier selected *Star Wars: The Clone Wars: Jedi in Training* (Scott, 2009) because of his interest in the story. Xavier made a number of semantic errors. These miscues, particularly with pronouns, account for the bulk of his reading errors. His errors, in this case, are rooted in contextual rather than graphophonic mistakes. For example, over the course of two particular interventions, Xavier substituted the name *Ahsoka* for the name *Anakin* six times. Because both are proper nouns (specifically names), the miscue was coded as syntactically acceptable. However, because they are different names, the miscue was coded as semantically unacceptable. The text reads, "Now Ahsoka will receive training from Anakin, a young Jedi Knight" (p. 10) and "Anakin's missions are dangerous" (p. 10). However, Xavier read, numerous times, "Now Ahsoka will receive training from Ahsoka, a young Jedi Knight" and "Ahsoka's missions are dangerous" (p. 10).

Xavier continued to demonstrate semantic cueing errors during the study. For example, over several sessions, Xavier substituted the word *by* for *and* 12 times. The text reads, "When Ahsoka and Anakin find Rotta, he is already sick and in need of medicine" (p. 11). However, Xavier read both occurrences of *and* as *by*. This type of error demonstrates Xavier's reliance upon syntax cues as opposed to phonetic ones. The word *by* makes some slight linguistic sense in the passage. However, the word *by* does not contain any of the letters or sounds of the correct word. The fact that Xavier self-corrected this particular error is important. It demonstrates his ability to recognize that he did not produce an appropriate match for the word in print.

Again, Xavier relied on a contextual cueing system in this story's reading. For example, he repetitively substituted the word *the* for the word *a* in the sentence "Rotta was kidnapped and taken to a castle" (p. 12). He did this four times in the course of four readings. This miscue was coded as both syntactically and semantically acceptable because it did not alter the grammar or significantly change the meaning of the sentence.

3.1.1 Xavier Also Used Decoding and Phonics Strategies

However, Xavier also employed decoding and phonics-based cues. For example, Xavier pronounced the word *idea* differently than the way it is pronounced in Standard American English. He pronounced the *ea* to rhyme with the word *sea*. This pronunciation is both syntactically and semantically improper. However, it demonstrates Xavier's knowledge of phonetic rules. Although in this case Xavier misapplied a phonetic principle, nonetheless, his pronunciation of *idea* correlated with phonics-based principles.

Xavier also relied on decoding and phonetic skills in his pronunciation of the word *arrived*. Xavier pronounced *arrived* as "arr-ee," which was also proof of a reliance, however weak, on phonetic cues. His pronunciation of *arrived* as "arr-ee" follows a type of sound similarity logic, even though in this case *arrived* is a very different word, with completely different middle and end sounds.

Xavier also used decoding and phonics-based strategies learned from his guided-reading-based workshops. During these workshops, Xavier learned a number of word attack strategies, such as (a) check the picture; (b) does it make sense? (c) tap it out; (d) chunking; and (e) skip and go back. The results recorded on the word attack strategies chart underscore this point. Xavier consistently depended upon a phonetic cueing system. For example, in one reading episode, he used the chunking method five times. Additionally, Xavier employed "tap it out" in two instances in the same reading encounter. The chunking method is a phonetic technique in which the student groups certain letters together to decode the word. "Tap it out" is another phonetic method in which the student attempts to isolate each grapheme. Xavier's use of chunking and tapping it out represents an explicit effort to access phonetic cueing systems.

3.2 *Chip to the Rescue: The Second Leg of the Data*

This section abridges the findings based on Xavier's reading of *Chip to the Rescue* (Aboff, 2006). Xavier was not familiar with this text and had no previous knowledge of its content. During the first session, Xavier substituted the word *dote* for *Dot*, the word *should* for *shouted*, and the word *wide* for *wind*. All of these errors were coded as semantically unacceptable because they all changed the meaning of the sentences in which they were found. They were also coded as syntactically unacceptable because *Dot* is a proper noun while *dote* is a

verb; *shouted* is an action verb while *should* is an auxiliary verb; and *wind* is a noun while *wide* is an adjective. All three errors demonstrate that Xavier was not relying on contextual cues to access the words in print.

It is interesting to note that all three substitutions share the same beginning and ending sounds as the text. However, they lack any middle-sound similarity. This demonstrates that although Xavier seemed to be keenly aware of beginning and ending sounds—usually represented by consonants—he was only minimally aware of the phonetic rules that govern middle sounds. This is the case especially when middle letters are vowel sounds complicated by features such as a silent *e* at the end of the word, a vowel diphthong, or an additional consonant in the middle. It also demonstrates that he was attempting to rely upon phonetic cues, although this reliance was not especially accurate.

Xavier's substitution of the word *the* for *she* is a graphophonic error. The passage should read, "she knew that" (Aboff, 2006, p. 6). This miscue is further proof that Xavier did not access a contextual cueing system to decode the words before him. However, it is telling that the word in print and the miscue do not share any beginning, middle, or end sound similarity. They are, instead, graphically similar because they share the graphemes *h* and *e*.

Possibly due to the relative simplicity of the text, Xavier did not use any specific word attack strategies. Therefore, I could not code them according to the phonetic methods (chunking or tapping out). I also could not code the miscues according to the contextual methods (skip and go back, check the picture, or does it make sense?). Overall, this segment of the data was inconclusive since Xavier frequently used both graphophonic and semantic clues.

3.3 Zooming and Focusing: Video Analysis of Salient Reading Passages

The third part of the triangulated data stems from timed readings of the texts mentioned above. To capture this, I timed Xavier's reading to measure his rate and endurance. Xavier's readings of *Star Wars: The Clone Wars: Jedi in Training* (Scott, 2009) were transcribed. Fountas & Pinnell's (1996) rubric for leveling books suggests that *Star Wars: The Clone Wars: Jedi in Training* should receive a K. Xavier's reading level was assessed as Nonetheless, his insistence on covering the material trumped leveling.

Roth's (2006) conventions for classroom transcriptions provided a model to record this exchange. The following are reading transcripts employing Roth's methodology.

3.3.1 First Transcribed Intervention (February 1)

Sentence 1: Ahsoka is training to become a Jedi Knight.

Xavier: ((holding his head))umm (.)Ah...[so] ka is (2.1) um (.) AHSoka is train[ing] to be→[come] um(.) a [J]edi *k* NIGHT.

(9.4 s, 3 errors)

Sentence 2: Ahsoka has already completed many years of training at the Jedi Temple.

Xavier: um (.)[AH]soKA (repeat 2X) has already (al. .al) (rea) (d)(repeat 2x) SC (already) [comp]LET::ED. hhh many years of training(6 seconds) at the [JEDI] TeMPL:E.

(14.5 s, 4 errors)

Sentence 3: Now Ahsoka will receive training from Anakin, a young Jedi Knight.

Xavier: Now Ahsoka will receive (10.2) (repeat 3x) (re. .re. .)(sc) (receive)((Xavier is receiving help from the researcher)train[ing] from Anakin, a (repeat 2x) a a (omit young) repeat (y*oung) young Je[DI] KNIGHT.

(20.3 s, 6 errors)

Sentence 4: Anakin's missions are dangerous. Ahsoka is brave and clever, but she still has alot to learn.

Xavier: Anakin's(Ahsoka) (sc) (ANA kin) miss (repeat 2X) [ions] (sc: missions 2x) are danger *ous. Ahsoka is brave (braf) and clever (omit), but she still has a lot to (.) LEARN.

((END PAGE 1))

(18.3 s, 4 errors)

(Total 62.5 s, 17 errors)

3.3.2 Second Transcribed Intervention (March 21)

Page 1

Sentence 1: Ahsoka is training to become a Jedi Knight.

Xavier: Ahsoka is train→(omit)→ing to BECOME a Jedi Knight.

(7.6 s, 2 errors)

Sentence 2: Ahsoka has already completed many years of training at the Jedi Temple.

Xavier: Ahsoka has ALREADY complete:[D](2 seconds) many (3 seconds) years of train[ING] at the Jedi TEM<PLE>.

(7.3 s, 2 errors)

Sentence 3: Now Ahsoka will receive training from Anakin, a young Jedi Knight.

Xavier: Now Ahsoka will re (re re) ceivE (sc receive) (3 seconds) TRAINING from Anakin, a young Jedi KNIGHT.

(7.9 s, 1 error)

Sentence 4: Anakin's missions are dangerous. Ahsoka is brave and clever, but she still has a lot to learn.

Xavier: Anakin→'s (omit)←MISS (sc: MISSIONS) are dangerous (3 seconds). AHSOKA IS BRAVE and clever, (.) but she still has (.) (VERY QUICKLY) (AUTOMATIC) A LOT TO LEARN.

(14.5 s, 3 errors)

(Total 37.3 s, 8 errors)

3.3.3 Third Transcribed Intervention (June 8)

Page 1

Sentence 1: Ahsoka is training to become a Jedi Knight.

Xavier: Ahsoka is train→(omit)→ing to BECOME a Jedi Knight.

(3.9 s, 0 errors)

Sentence 2: Ahsoka has already completed many years of training at the Jedi Temple.

Xavier: Ahsoka has ALREADY complete:[D](2 seconds) many (3 seconds) years of train[ING] at the Jedi TEM<PLE>.

(7.3 s, 0 errors)

Sentence 3: Now Ahsoka will receive training from Anakin, a young Jedi Knight.

Xavier: Now Ahsoka will re (re re) ceivE (sc receive) (3 seconds) TRAINING from Anakin, a young Jedi KNIGHT.

(7.9 s, 0 errors)

Sentence 4: Anakin's missions are dangerous. Ahsoka is brave and clever, but she still has a lot to learn.

Xavier: Anakin→'s (omit)←MISS (sc: MISSIONS) are dangerous (3 seconds). AHSOKA IS BRAVE and clever, (.) but she still has (.) (VERY QUICKLY) (AUTOMATIC) A LOT TO LEARN.

(14 s, 0 errors)

(Total 33.1 s, 0 errors)

By Xavier's last intervention, dated June 8, it is evident that his fluency and endurance have dramatically improved. Note that in the first reading, Xavier read the passage in 1 min 2.5 s. By the last intervention, Xavier read that same page in a total of 33.1 s. He was able to read the material without distractions and without becoming discouraged. Astoundingly, during the last transcribed intervention, Xavier read two pages with ease.

The transcripts above address the degree to which reading fluency may be culturally enacted. Xavier's improvement could be attributed to automaticity theory, which posits that reading fluency improves with repetition (Kuhn & Stahl, 2000; Therrien, 2004; Therrien & Kubina, 2006). Overall, Xavier was able to decode words at a faster rate in the third intervention as compared to the first intervention. However, Xavier's reading in the third transcript showed no errors and prevented us from employing Goodman's (1973, 2006) or Theurer's (2002, 2010) methodologies to track phonetic or semantic errors (Smith & Goodman, 2008).

Deeney (2010) argued that fluency is assessed in textual context. Consequently, fluency instruction should be connected to a specific text. A student's difficulties with fluency may stem from problems with decoding and letter-sound correspondences. However, a student's fluency improves with repetition. In Xavier's case, his automaticity and accuracy improved. Accordingly, particularly by the third transcript, he read correctly and

clearly. The repeated interventions afforded Xavier the opportunity to reread the material. This may have helped to improve not only his accuracy but also his prosody and comprehension. The improved fluency also led to Xavier's increased reading endurance.

Deeney (2010) also suggested that students read books in which they have interest. Many struggling readers are not interested in reading the books that teachers recommend. Having a variety of accessible texts, in terms of readability as well as availability, is critical for engaging students in reading. This certainly seemed to be the case with Xavier. Deeney also mentioned the power of repeated reading. Kuhn & Stahl (2000) noted that repeated reading assists students with fluency skills. Because repeated reading helps with fluency acquisition, it may also assist with endurance. All of these related concepts seemed to help Xavier.

4. Discussion of Findings

The combination of methodological and data limitations resulted in a study that could not fully answer the research questions. In sum, the study provides insufficient evidence to align the research questions with the case-study data. Unsatisfactorily triangulated data prevents any convincing knowledge claims. However, this study provided an initial understanding of the complexity of the topic. An inconclusive study should not mean that additional inquiry is not needed. In fact, new research should be conducted simply due to the comprehensive nature of the cognitive/psycholinguistic school's claims about fluency. However, the findings of this study were inconclusive.

The goal of this study was to identify how students learn to read fluently. I specifically set out to examine the extent to which fluency is enacted through the development of phonics skills or semantic understandings of texts. These questions prompted the initial investigation of the literature. On opposing ends of the learning-to-read spectrum, as Perry (2012) noted, fluency research has two different bodies of literature: One notes the efficacy of the cognitive/psycholinguistic perspective; conversely, a small body of work focuses on contextual and semantic aspects of the reading process.

In contrast to the prevalent cognitive/psycholinguistic research, this study set out to examine fluency more broadly. It incorporated frameworks and perspectives from very different but equally relevant sources. In many ways, it was necessary to depart from previous fluency research, because much of that work is rooted in a type of orthodoxy. Rather than subscribing to the cognitive/psycholinguistic framework, this study is more fully positioned as initial work—that is, it questions and examines the claims of the cognitive/psycholinguistic perspective but only posits potential alternatives.

As hypothesized, the findings of this research both supported and challenged prior work in the field. Specifically (and somewhat paradoxically), this data set equally supported the cognitive/psycholinguistic and the semantical approaches to reading fluency. Therefore, more research is needed to more fully understand how fluency is developed. However, this research does underscore the efficacy of using Goodman's (1973, 2006) and Theurer's (2002, 2010) approaches to miscue analysis. Goodman & Theurer provided a much-needed framework to examine reading fluency outside of the more orthodox perspective. The combined work of Goodman & Theurer may help explain (although not conclusively) the extent to which Xavier was using a contextual/semantic cueing system to read fluently.

This study found that Xavier's miscues were mostly contextual in nature. This is a salient point. However, it is inadequate evidence from which to build a functioning theory. Nonetheless, it provides strong evidence that Xavier was not exclusively relying upon his phonics-based cueing system to identify words. The findings, although not conclusive, reflect a semantical influence on his learning to read fluently. Lastly, this point underscores that fluency may be enacted through a student's prior knowledge of a given topic and the semantic meanings attached to printed material.

Conversely, and again paradoxically, Xavier did steadily rely on his phonics-based instruction. When Xavier realized that he could not readily identify a word from this text, he consciously attempted to rely on only phonetic cues to troubleshoot. Additionally, Xavier deliberately used both the chunking and tapping methods. This suggests that explicit technique-based instruction can greatly help students.

In addition, Xavier regularly used a graphophonic cueing system while reading *Chip to the Rescue* (Aboff, 2006). Many of the miscues that Xavier made while reading this story were cued from a graphophonic standpoint. Only a few of the reading errors were categorized as semantically or syntactically acceptable. The remaining miscues did not share any sound similarity but shared high graphophonic similarity with the word in print. These findings indicate that a phonics approach to literacy is enacted through a distinct knowledge of sound-symbol

correspondences. This notion, much like the theories posited by the cognitive/psycholinguistic approach to literacy, suggests that further instruction in decoding greatly benefits students across the disciplines.

The Xavier case-study methodology is not without setbacks and severe limitations. Clearly, the first limitation is an issue of generalizability. One case study offers little to developing a method to specify how fluency is enacted by millions of students. A second and equally strong limitation is that this research did not offer explicit suggestions on how to analyze other components of fluency, leaving automaticity and prosody underexplored. A third limitation of this research is that it offers no suggestions on how to develop learning accommodations based on the empirical work.

Despite the limitations of this study, the work could be used to enhance the field's understanding of reading fluency. For example, the methodology of zooming and focusing on a single case yielded important results. The Xavier case strongly illustrates how fluency is enacted in a real-life situation. By finding ways to creatively mix opposing approaches to literacy, teachers can develop the proper balance of both contextual and graphophonic learning accommodations to benefit their students. An aspiration of this work is that other researchers will deploy and enhance the methodological frameworks used here.

4.1 Summary and Future Work

Reading is the sole currency of American schooling. Reading is a type of power discourse in schools, affording students opportunities to gain greater educational and career opportunities. Student success is contingent on reading proficiency. As teachers, it is our responsibility to help students in learning this school currency. This paper focused on fluency as a precursor to this power discourse. Although the results are inconclusive, this work proposes more research into reading fluency. Perry (2012) noted the binary of reading research; this work aspired to supersede this unnecessary dualism.

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