



WORD LEARNING AND STRUGGLING READERS:

A critical analysis of theories and data regarding the role of decodable texts in supporting word learning for beginning readers

From Adams (2009) – a description of the process of word learning:

To sound-out a word, a student must examine the letters left to right, in sequence. This causes the ordered, left-to-right sequence of letters to leave a trace of itself in memory. At the same time, because the student is sounding the word, the trace that results includes the letters' connection to their phonology or speech sounds. That is true for the individual letters and groups of letters, as well as the word as a whole....Gradually, through repeated encounters, the representation of the word and its parts become so richly and strongly interconnected that the word is recognized virtually at a glance. Its spelling, pronunciation, and meaning seem to come to mind at once. The word has become a *sight word* (see Ehri, 1992, 1998). (pg. 33, Finding the Right Texts)

- This represents the commonly accepted model of word-learning. Ehri (2005) and Share (1999) both argue for highly similar positions.
- It has been demonstrated repeatedly empirically
- It aligns with best current theories of reading development, learning and cognition
- There is little significant critique to this model in the research literature.
- This model underlies the decodable texts used in Open Court.

Adams (2009) on the critical role of accuracy in supporting word learning:

Importantly, however, acquiring new sight words is the direct outcome of neither careful instruction in phonics, phonemic awareness, or letters, nor even of prior decoding sophistication. All of those factors are but enablers. Rather, the prepotent determinant of sight word acquisition is whether, on encountering a new word in print, the student actually does try and does succeed in decoding it. (pg. 35, Finding the Right Texts)

This quote helps focus **the primary purpose of this project**. If the key determinant of sight word acquisition is the successful decoding of a word in text, then it follows that student accuracy data during readings of the decodable texts used in a program such as Open Court should demonstrate high degrees of accuracy to support this word learning system. Significant problems with accuracy, however, would indicate a potential problem. While substantial 1st grade reading data has been collected from the commonly used DIBELS assessment, there exists little to no data on student reading behaviors using the daily, instructional decodable texts that make up the bulk of reading material for current commercial reading curricula.

Empirical confirmation of the relationship between accuracy and word learning outcomes

Cunningham (2006) looked at word learning outcomes for 1st grade students reading either normal story passages or passages where the word order had been scrambled. While the study's primary goal was to provide evidence for Share's self-teaching hypothesis using connected texts, Cunningham also demonstrated a strong correlation between accuracy and word learning ($r = .66$, $p < .001$). The results contradicted the hypothesis that contextual clues would undermine word learning outcomes since students would have other ways of solving words than only focusing on orthographic details. Students in the normal passage condition were more accurate than students in the scrambled passage condition, a result which led to greater net word learning gains. Additionally, for each mistake students made in decoding the target words in the study, their likelihood of having learned the word on either outcome measure went down significantly.

How do Open Court decodable texts and classroom instruction support accuracy?

Any student can struggle if they read a book beyond their reading level. Open Court supports beginning readers primarily through the strategy of lesson-to-text-matching. This means that in any OC decodable text, at least 75% of the words in the book have either been previously taught as sight words or can be decoded using phonics lessons students have been previously taught in class. A student is never given a book for which they have not been taught the important information necessary to be successful with that book (Adams, 2009).

The question for this study, however, comes back to the well-worn question of text difficulty and the hypothesis that single-criterion, decodable texts end up being too difficult for many beginning readers. Even though the relevant phonics lessons have been taught, instructed does not always mean learned. Additionally, the pace of presentation of new material makes it especially challenging for struggling beginning readers.

Method From November, 2010 - April, 2011 I visited two first grade classrooms at an urban elementary school in Northern California roughly twice/week and had each student read me the decodable text that had been presented in class most recently. Each student had read the book together as a class previously as well as once on their own with help from the teacher or an aid as needed. Students were given two minutes to read as much of the text as they could. Sessions were coded for accuracy, fluency and detailed information about the reading behaviors produced by students. Following the DIBELS assessment model, when students paused or struggled with an unknown word for 3 seconds, I marked the word as an error and told them the correct word.

Participants 45 first grade students at Pinebranch Elementary School (pseudonym). The school has a total population of 253 students, a mix of 40% African American, 28% Caucasian, 17% mixed race or non-responding, 8% Asian and 6% Latino. Of the 253 students (K- 5th grade) 16% participated in the free and reduced lunch program and just 2% of the students were English language learners. The school's academic performance index (API) for 2009 was 864, placing it in the top 80% of California schools.

Materials The books in question come from SRA/McGraw Hill's Open Court Reading program. The program includes 150 decodable texts that teachers sequentially give out to students on a daily basis. To date, data has been collected on 18 books with a goal of 25 books by completion of the data collection.

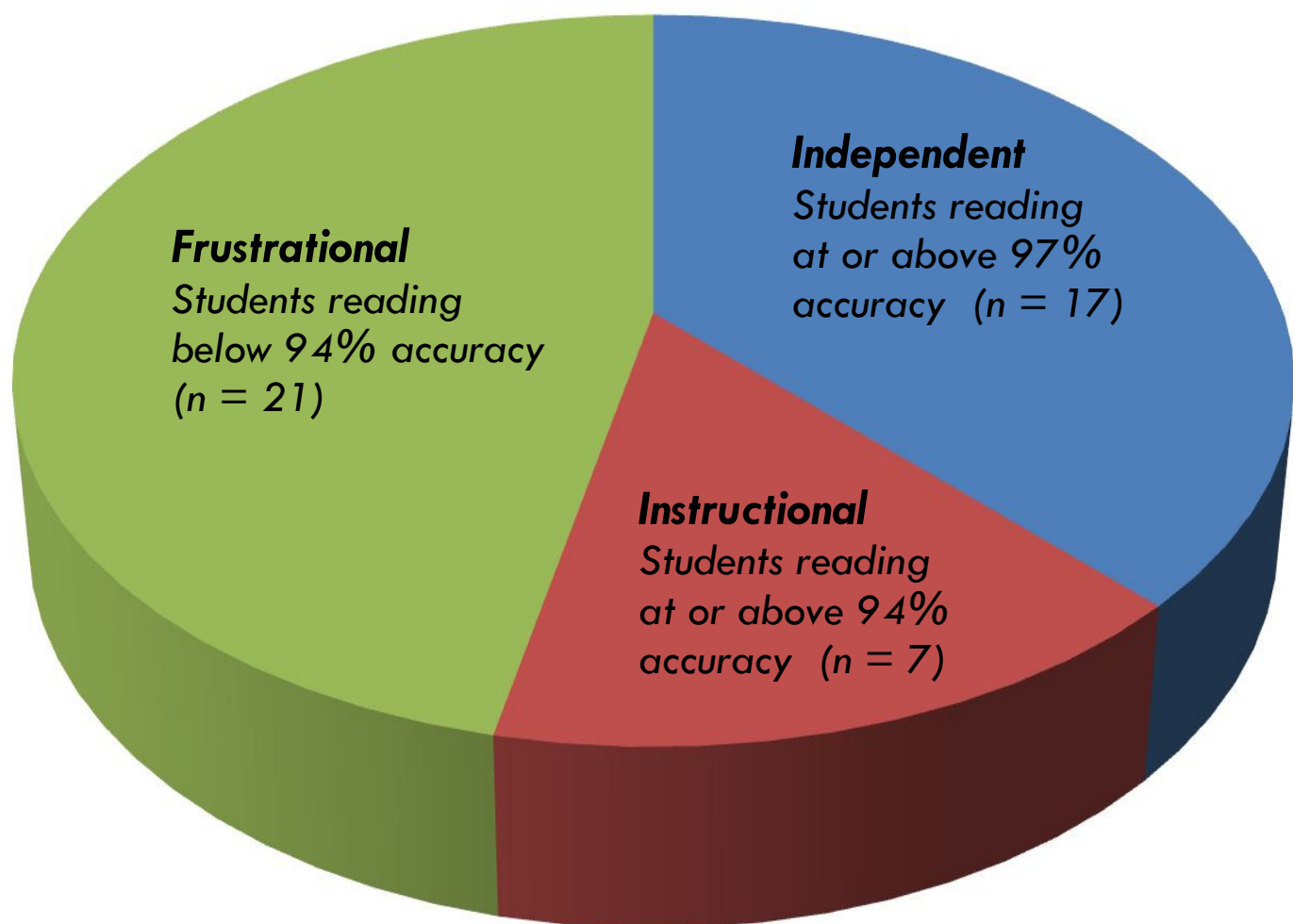


Figure 1 Number of students at Independent, Instructional or Frustrational level, averaged across all books

Results/Preliminary Findings

From the initial data analysis, three significant findings have been noted:

1. Figure 1 shows a breakdown of the number of students whose average reading accuracy, scored across all 18 texts used in this initial analysis was at either the frustrational level, instructional level or independent level (Betts, 1945, DIBELS). Using beginning of the year and mid-year DIBELS data to divide the 1st grade students into terciles, the average accuracy score for the lowest tercile was 85.7%, compared to 93.8% for the middle students and 98.7% for the top tercile.
2. While a small percentage of the errors did occur on words that fell outside of the lesson-to-text-matching requirements, the substantial majority (over 85%) of errors occurred either on sight words that had been previously taught or on decodable words where the required phonics information had been previously taught. For the lowest performing students, frequent errors occurred in words with the most recently taught phonics information, including the phonics information for which that specific text was designed.
3. While the highest tercile readers averaged close to 100 words/minute and the mid-level readers close to 60 wpm, the lowest tercile readers averaged under 30 words/minute. Contrary to the model presented by Adams (2009), even on the third reading of a specific text, previously taught sight words and decodable words made up of previously taught spelling patterns still required significant time and effort for struggling readers to decode. There was little to no fluency or automaticity for the lowest-performing readers. This finding mirrors results from Mesmer (2010).

Discussion/Conclusions

While data from the top third of students show them to be accomplished readers and the middle third of students struggle somewhat with accuracy, the bottom third of students show accuracy and fluency scores that indicate the basic model of word learning as proposed by Adams (2009) which the texts are designed to support is not working as planned.

- Problem likely much worse than these results show due to support given during reading (i.e. telling students an unknown word)
- Data from this study reflects a school in the 80th percentile, for lower-performing schools, many more students are reading the decodable texts with equal or lower accuracy scores and fluency rates.

Key question for ongoing analysis: Is this an example of struggling readers struggling or is there some type of interaction between specific text features that make up decodable texts and struggling early readers?

1. Significant preliminary data indicating that errors for struggling early readers most often occur in relation to specific text features such as low frequency words and awkward or unclear language structures (Hiebert, 2009)
2. Reverse McNamara/Kintsch effect—these authors found that high-performing students were especially suited to make use of poorly worded instructional texts. Here the reverse seems to be happening. Struggling early readers are disproportionately negatively affected by specific text features of decodable texts.



What is word learning?

While word learning can refer to vocabulary development or accurate spelling, the primary issue I'm addressing is word recognition/decoding ability. The primary data source I'm looking at to assess word learning is do students decode the word accurately when they encounter it in print?

Are there alternatives to decodable texts?

As part of my research, I've created a project using public resource photos from the internet and basic desktop publishing software to design a set of high quality "public domain" books for use in early reading development. The books support phonics-based classroom instruction by including a high concentration of phonetically regular words and the most commonly used sight words. However, the books are written using pictures and stories that make sense, with simple language structures that support independent reading and language development. For more info go to: www.mustardseedbooks.org

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