

Why a Structured Phonics Program is Effective

David Liben

Structured phonics programs have long been [shown](#) to be highly effective in teaching all students the foundational skills necessary (though not sufficient) for reading comprehension so let's start by clarifying what exactly a structured phonics program entails. **Such a program directly teaches the spelling/sound patterns of English in a clear sequence** (e.g., beginning with consonant sounds then moving to short vowel sounds, long vowel sounds, consonant blends...).

There are many structured phonics programs and the sequence is much the same in all. Students are taught each of the spelling/sound patterns in the sequence and then given an opportunity to apply the sequences as they read and spell words both in and out of context. In other words, students read the words containing the spelling/sound or phonics patterns they have learned in connected texts and also engage in a variety of activities (such as games, puzzles, and flashcards) outside of the texts they read. Research has shown the need for both of these approaches (Landi et al 2006).

In most of these programs, the words in the texts are restricted to the spelling/sound patterns that have been taught. For example, if short vowel sounds had been taught but long vowel sounds had not been taught, then only short vowel sounds would appear in the texts students read. Similarly, if specific consonant blends (e.g., bl, cr, tr...) had been taught, these would appear in the texts, whereas blends that had not yet been taught would not. These texts are often called “phonetically controlled readers” or “decodables” because the majority of the words forming the text conform to the letter-sound or phonetic patterns that have been taught up to that point in the program. Phonetic or letter/sound patterns not yet taught do not appear, or appear far less often, hence the term “phonetically controlled.”

Programs that do not use phonetically controlled readers also use texts that are controlled – essentially by every *other* feature of the text: repetition, context, illustrations, shorter sentences, shorter paragraphs and larger font. Such texts are usually called “leveled readers” or “leveled texts” (since they are placed into complexity levels by this array of text features) or “predictable texts” (since the array of supports makes what happens very predictable and students use this to help read the words). Typically, guided reading programs use these types of texts.

Another essential feature of structured phonics programs is that they **insure that beginners acquire the foundational skills necessary to move into reading.** These programs make sure that children learn letters and learn to segment words into their smallest sounds. Learning letters and segmenting words are the two most important contributors in helping children learn to read words during kindergarten and first grade. Letter knowledge and sound awareness enable children to interpret letters as representing the separate sounds in individual words and

as a result to remember how to read and spell the words.¹ Structured phonics programs usually include the concept of “phonemic awareness”, the idea that a word is made up of a series of sounds. These often begin with teaching rhymes followed by letter sounds and parts of words such as syllables. Learning that a word is made up of separate sounds helps set the stage for learning spelling/sound patterns of the language and how they combine to make words. Phonemic awareness is nearly all games (see Adams 1998) and some programs that are not structured phonics do this as well.

In my work with [Student Achievement Partners](#) and in schools in Harlem and elsewhere ([Our Journey to Reading Success](#)), I have seen the power of a structured phonics program. And hundreds of studies have shown the benefit of structured phonics programs. The report of the [National Reading Panel](#) reviewed the best of these studies. The research on the value of these programs is so strong and so consistent that the IES (Institute for Educational Science, the research wing of the Federal Ed department) has decided that the case is closed: there is no further need to review what the evidence shows about the effectiveness of structured phonics programs.

Below, I focus on the types of texts used in structured phonics programs compared to other programs, why a structured phonics approach works so well (hence the overwhelming research), some potential pitfalls in using these programs, how these pitfalls can be avoided, and different approaches that some structured phonics programs have adopted to do this.

Texts in Structured Phonics Programs Compared to Texts in Other Foundational Skills Programs

When contrasting the texts students read in structured phonics programs with the texts used in other programs, the key differences are the nature of the text and the different processes students would use to read that text. As noted earlier, leveled readers depend on context, pictures, short sentences, clear patterns, and repetition. They include texts that sometimes are referred to as “predictable texts.” Take, for example, *Mrs. Wishy Washy*:

“Mrs. Wishy Washy has a mop.” [With accompanying picture of a mop]

“Mrs. Wishy Washy has a broom” [with picture of a broom]

And so on...

This is an example of a very early first grader reader (also known as a leveled or “predictable” text). Students generally first read this text with the teacher. Then, they reread independently or in pairs. Yet unlike with a text that is controlled for spelling/sound patterns, here students can simply have memorized the words and sentences because of the repetition and predicted words because of the pictures and the context. In other words, students can use the pictures, the context, the patterns or any combination of these to read the words in the text. They do not

¹ Sound awareness is a necessary prerequisite to segmenting words. You can’t break up or segment “nest” into four sounds unless you are aware in general that a word is made up of a sequence of sounds and the sounds themselves do not provide the meaning. The sound that “n” makes has nothing to do with the meaning of “nest”

have to focus on the spelling/sound patterns of each or most of the words. This does *not* mean that teachers cannot call attention to spelling/sound patterns within these words, only that most leveled reading programs do not call for or emphasize this and it is not essential to reading the text.

This type of approach works well for something called “Concepts of Print”: the idea that words and sentences are read from left to right, books are read from left to right, and books have titles and pictures. However, as texts get more complex (even in these early grades), it becomes progressively more difficult for students to read the words by using this combination of contextual clues. Note, though, that as students are taught to use their knowledge of spelling/sound patterns to read words, they of course also should be taught to employ context when they read a word and it doesn’t sound right! In other words, context is an important back-up, but not the *primary* process used to read words or learn to read words.

Leveled readers for K-2 even in the later grades are highly constrained texts, something that is not generally acknowledged or considered. In fact, ‘controlled texts’ is a label usually preserved for decodable books. But leveled readers are controlled by repetition, font size, sentence size, sentence patterning, and use of illustrations, predictability and context. Ironically, they are controlled by every feature of text *except* spelling/sound patterns.

By contrast, a phonetically controlled or “decodable” reader would have less repetition, fewer pictures, and be less predictable, since the intent is to ask children to attend carefully to the phonetic patterns they have been learning. Consider the example below (a very early first grade phonetically controlled reader):

I am Bev. I am ten. I am at camp. Camp is fun.

Mom and Dad went on a trip to the camp. All of us were at the camp.

This phonetically controlled example is from the beginning of the book. It has no pictures. The student has to focus exclusively on the spelling/sound patterns of the words; words made from the spelling/sound patterns which had been taught. In this case, the vowel sounds are all short vowels, and there are no consonant blends. The other words – “is” and “went” – are high frequency words (sometimes called Dolch Words’, named after the creator of a list of these types of words), which are taught as whole words that students commit to memory usually without focusing on the letter/sound pattern (high frequency words often are also called “sight words” “snap words”, “irregular words”, “tricky words”... different programs use different labels.

In sum, the major difference between teaching children to learn to read with leveled texts (or ‘predictables’) vs. phonetically controlled readers (or ‘decodables’) concerns what we are asking students to do with their attention and effort. **With leveled readers, we are asking students to predominately use context to learn to read; in phonetically controlled readers, we are asking students to first and foremost use the spelling/sound patterns of the English language.**

Pitfalls that Often Prevent Children from Securing a Solid Reading Foundation

Even if a school provides a structured phonics program for its students, there are still common errors made that cause ‘failure to thrive’ conditions for too many children. Some schools now combine a structured phonics program (e.g., “Foundations”, “Reading Mastery”, there are a number of these) with predictable or leveled texts. This is clearly better than no structured phonics at all, yet has two potential pitfalls. Time spent on the predictable or leveled readers often means less time attending to spelling/sound patterns. If little or no attention is paid to spelling/sound patterns when students work with the predictable or leveled texts, then they could lose the habit of using the spelling/sound knowledge they have acquired. And it is difficult (though not impossible) to attend to spelling/sound patterns in these texts, since the texts are not aligned with the patterns students have learned. In addition, a student may need more work with a specific pattern, but this pattern might not happen to appear in the predictable text being read.

There are other critical underpinnings for student reading success that hardly any schools address adequately. One is reading fluency. **In order to read with comprehension students need to read with fluency.** Fluency is defined as reading accurately, at a rate appropriate to the text and with proper expression (Rasinski 2004). The first step in fluent reading is to accurately and effortlessly recognize the words in the text. A proficient reader reads a word in [about a quarter second](#). Students who frequently stumble or hesitate in recognizing words are prevented from reading a text fluently. A structured phonics program, by continually assessing and addressing students’ progress in mastering spelling/sound patterns, assures that all students going through the program can decode with automaticity, without which fluent reading is not possible.

To decode with automaticity, students need to learn letters and combinations of letters that represent the 44 different sounds of the English Language in written words. Unfortunately, unlike other languages whose writing systems are far more straightforward since the letters have a one-to-one correspondence to the sounds (e.g., Spanish, Finnish, and Hebrew), in English the same letters can make different sounds: *a* as in bat, date, and all; *ch* as in school and check; *oo* as in look, tool, and poor. And to make matters worse, the same sounds can be represented by different letters or combinations of letters: the short *e* sound in bet and bread; the *f* sound spelled *gh* in laugh, *ph* in phone, or just *f* in fickle (which English is)... you get the picture. Ultimately any word made up of any of these spelling/sound patterns needs to be read accurately and immediately, in roughly a quarter second, and to be spelled accurately as well. (In case you’ve been wondering you now know why spelling bees are a uniquely English language event).

In the [K-8 school](#) Meredith Liben, Christina Forstmann and I started in Harlem, we used to tell the children in K and 1, “English is a crazy language!” So why would a structured phonics program work so well in such a *fickle* language? It would seem like there are too many combinations and not enough consistent patterns.

What a structured phonics program does to support emerging readers

First, a structured phonics program introduces students to spelling/sound relations separately, explicitly and gradually.

It does *not* (as in the predictable text *Mrs. Wishy Washy* described above) expect students to infer spelling/sound patterns by seeing them in words that they read in context (although contextual exposure can and *should be activated* to supplement learning spelling/sound relations individually).

In *Mrs. Wishy Washy*, as children see the picture of the broom and the word “broom,” the expectation is they would infer that “oo” makes a similar sound and transfer that inference instantly when they see “soon,” “spoon,” etc. Of course, this does *not* mean that teachers cannot call out this pattern to students. But it does mean that a leveled reading program does not necessarily *require or remind* teachers to call out letter sound patterns. (Nor, with *Mrs. Wishy Washy*, can one be sure that the same pattern will reappear in the rest of the book, or for that matter, in any books students might encounter in the near future subsequent to *Mrs. Wishy Washy*)

Note, too, that students who come from language-rich homes (where they are frequently asked questions or encouraged to look for patterns in language and elsewhere) *would* be more likely to make these inferences in the early grades. This puts students who do not come from such a background at a disadvantage in these vital early years. The famous “[30 Million Word Gap](#)” study showing how students from less educated households are spoken to 30 million words less attests to this. Students who are spoken to so much more not only know more words but become comfortable with more syntactical forms and of course acquire more knowledge. All of this produces a greater comfort with language that is more likely to encourage and inculcate an inferential learning style that would support the more inferential requirements of the leveled or predictable approach.

By contrast, a structured phonics program directly teaches the concept of what a spelling sound pattern is and what it does, thus supporting students who might not have the advantages of students from more educated families. This type of metacognitive awareness has long been shown to support all learning. Teaching such awareness can begin, for example, by asking students what a letter is and explaining it is a picture of a sound. In other words, teaching the concepts of the alphabetic principle and spelling/sound patterns initially and directly helps make students aware of language in general and avoids the risk of their losing the forest for the trees as they plunge into one of the most cognitively challenging tasks they ever will. It also helps reduce the disadvantage students coming from less language rich environments might have in these essential early years. It is important to note however that the research cited above shows structure phonics most effective for, “...students at all SES levels”

Second, by introducing spelling sound patterns in a sequence one at a time, teachers can more easily tell which students have mastered which patterns and provide the support needed. This makes it easier to pinpoint support and identify who needs it. If you don’t introduce, teach, and reinforce the patterns in a clear sequence, then the only alternative is to

address problems reactively as they become apparent in whatever texts students are reading. If these texts are like *Mrs. Wishy Washy* – written with no specific spelling sound patterns in mind – then recognizing and addressing problems becomes far more difficult to do. It also makes it far more difficult (not impossible) for the teacher to **know** for each specific student which patterns s/he has learned, which students need more support, and how to provide activities to support these students. All this assessment and differentiation would be specified and clear in a structured phonics program including the necessary materials. Through frequent and regular check-ins, and informative assessment of spelling/sound pattern mastery at regular and frequent intervals, teachers *and students* would be aware of which spelling/sound patterns have been learned and which need more work. This is significantly more difficult (though again not impossible) with predictable or leveled texts where students, even those at the same ability or reading level are reading a variety of different books; none of which were chosen for the inclusion or assessment of specific spelling/sound patterns.

It is important to note an additional advantage a sturdy knowledge of phonics provides: as students learn an increasing number of spelling sound patterns, they not only increase their ability to recognize new words containing these known patterns, but they have a much greater likelihood of recognizing irregular words as well or words with spelling/sound patterns they may not have yet been taught. This occurs due to the increased *comfort*, subsequent *confidence* and resulting *enjoyment* with reading in general, but also happens because all the words they know help provide contextual support for those they don't. This context effect will grow as students learn more and more spelling/sound patterns. To whatever degree spelling/sound patterns are mastered, the context effect grows in strength; conversely the failure to master spelling/sound patterns diminishes the context effect. Marilyn Adam's hugely influential *Beginning to Read* (1990) lays out the abundant and elegant cognitive science research behind this process. Keith Stanovich and Anne Cunningham's work (Cunningham and Stanovich, 1998; Stanovich, 1986) illustrates how the failure of this process to move in the right direction contributes to the "Mathew Effect" in education: students who start out well move increasingly ahead at a faster rate each year relative to those who start out poorly.

Third, we know that proficient readers know more than just the meaning of a word. This insight comes from a body of work called the "Lexical Quality Hypothesis" (Perfetti, Lexical Quality, 2007). Proficient readers know a word's phonology (how to pronounce it), its orthography (how to spell it), and its morphology (what prefixes, roots, and suffixes make it up). A structured phonics program teaches students all of these features, and teaches them to apply all of this knowledge to decode and spell words. When learners do this a few times for a given pattern, the spellings of individual words become glued in memory to their pronunciations and meanings. This enables them to read the words more quickly from memory the next time they see them, *and* to remember how to write the words. The application of decoding skill to retain individual written words in memory supports the development of proficient readers with automatic word reading skill (Adams, 1990).

In other words, after a student first reads, 'splashing', hears its correct pronunciation, recognizes and reads correctly the "ing" suffix, absorbs its meaning in the specific context, and spells it correctly, she then begins the process of placing this word in her long term memory.

After a few repetitions, ‘splashing’ is recognized and read with automaticity. It is essential to note that students will vary in how many repetitions they need: some will need *far* more exposures than others. Thus, a good structured phonics program provides abundant easily implemented materials, so teachers can support students who need this greater time and attention while allowing other children who have solid awareness to move on.

Finally, since the teacher knows exactly which spelling/sound patterns currently are being taught and which already have been taught, **she can select the most appropriate texts for her students to read: those that contain the spelling/sound patterns being taught and those already learned.** For example, if a student needs more support with consonant blends such as “bl, cr, dr,” then working in a book that has these can provide this support. If books are chosen on some other basis (think *Mrs. Wishy Washy*), then this selecting for mastery becomes far more difficult.

Why structured phonics programs provide greater, and essential, support for our low income students.

Many students from low income households face stressors that students from families with more material resources don’t face. One impact of these stressors is greater school absences and lateness. A program that frequently and regularly assesses *exactly* what spelling/sound patterns have been mastered and what have not is much more likely to avoid losing these more vulnerable students.

Second, leveled reading systems privilege inferential learning. Students from less educated families (in the US education levels correlate tightly with income), though obviously just as capable to develop in this area, often come to school with less practice in inferential modes of discourse and frequently less comfort and less diverse language exposure in general (Hart and Risley 2003). Less comfort in any domain makes it less likely to use inferencing power to learn more. Students from less educated families come to school with less comfort and knowledge in the language domain and are therefore less likely to successfully make the inferences about spelling/sound patterns called for by leveled readers.

Third, leveled reading systems count much more on the draw and appeal of the text to pull students in. This is of course a good thing, but students from less affluent families are less likely to have had the same variety and depth of experiences with literature their more affluent peers would before starting school. So they might not have developed a pre-existing awareness of the magnetic appeal of reading and literature.

Finally, as shown in a recent NY Times [article](http://www.nytimes.com/2016/05/04/nyregion/studying-how-poverty-keeps-hurting-young-minds-and-what-to-do-about-it.html), low income students are far more likely to live in circumstances where they have been exposed to lead poisoning and other toxicities. As the article notes however, these can be alleviated if caught and addressed early (<http://www.nytimes.com/2016/05/04/nyregion/studying-how-poverty-keeps-hurting-young-minds-and-what-to-do-about-it.html>). A strong structured phonics program does this in two ways: frequent and regular assessment alert teachers and guidance counselors to students who are not progressing at a healthy rate and who may have these conditions, and the repetition of

spelling/sound patterns directly addresses and strengthens the neural pathways employed in decoding processes (Shaywitz et al 2003), providing the extra support and reinforcements students who have had their development compromised need even more than their peers might. Conversely, a more scattershot approach to teaching the foundational bases for reading success could further compromise student learning and outcomes.

Let the buyer beware - there is a problem with most structured phonics programs currently available in the US Market.

Ultimately, the way students reinforce and commit to memory the large and myriad array of spelling sound patterns is not by simply memorizing rules; rather, it is by seeing the patterns they've learned in words and by working to read and spell the words. This chance to work and learn is present in all structured phonics programs. However, many structured phonics programs have limited the texts that students read so that they are *only* exposed to the spelling sound patterns they've already been taught.

As many teachers know, these highly controlled texts can be quite stilted, and this is the precise reason many people do not like, and may even refuse to use, structured phonics programs. It's important to note though that, no matter how dull the text may seem to skilled adult readers, the act of learning to read *any* text (think cereal boxes!) successfully is thrilling to novice readers.

Additionally, many teachers and schools moved away from structured phonics programs because they did not see reliable improvement on reading scores after initiating these programs and the programs received the blame. It is critically important to understand structured phonics' place in the equation that adds up to reading success.

A successful structured phonics program is necessary to succeed on any reading test. It is not however sufficient. Successful decoding does not always lead to fluent reading. Fluency requires, in addition to effortless decoding, attention to phrasing, punctuation and sentence boundaries.

Similarly fluency does not guarantee comprehension, though lack of fluency guarantees lack of comprehension. Once fluent, students still need to grow their vocabulary, grow their knowledge and have the opportunity to regularly work with rich, complex text.

But successful decoding is the foundation without which none of the rest can stand.

It would of course be *far better* for students to be genuinely engaged with the content of the first texts they read, since that also reinforces the idea that reading is meaningful and valuable for what it can transmit to you, not only for being able to do it. It's a "both and" situation. (Incidentally, we need lots more "both ands" in education. By a fabulous non-coincidence, Meredith Liben and I have written [a paper of this name](#).

A note on special education and Response to Intervention (RTI) legislation

Part of the reason for this legislation was findings that many students referred to special education, especially from less affluent families, were in fact students who could not decode

with automaticity and invariably were not taught in a foundational skills program employing systematic phonics. Thus another benefit of a systematic phonics program is to avoid the need for services that might unnecessarily label and remove students from the classroom, invariably missing interactive read alouds, research, and other language-rich activities that most grow the vocabulary and knowledge these students need.

The most effective foundational skills programs provide both key ingredients: *both* a structured phonics program *and* engaging content-rich texts with instruction that systematically and frequently calls attention to and provides repetition of known spelling/sound patterns. Unfortunately, not many programs like this exist. Examining programs that combine these ingredients in different ways is illuminating.

Examining Four Specific Structured Phonics Programs that Get it Right

American Reading Company (ARC)

American Reading Company's Independent Reading Level Assessment (IRLA) and Foundational Skills Toolkit combine a number of powerful features

- A huge number of words that students learn to read as whole words – far more than traditional structured phonics programs provide. Students are gradually directed to pay attention to the spelling/sound patterns within these words as they come up in the sequence. These words are high frequency words that appear in many texts (e.g., “on, live, there, little, house, family, mother, come, go, said...”). This is far more words than the traditional “Dolch” list mentioned above. ARC calls these “power words.” Committing so many words to memory when combined with words representing the spelling/sound patterns learned allows students to work with more engaging texts as they continue to learn more spelling/sound patterns.
- A clear, well-structured, teacher-friendly and systematic protocol allowing teachers to assess students' mastery of spelling sound patterns, vocabulary, and comprehension.
- Highly engaging texts, many of which are the type of nonfiction informational texts students find fascinating (sharks, insects, spiders, monsters, sports, motorcycles...). This also meets the call in the new standards for more informational text in these grades. Thus, the texts that students read are clearly engaging, they contain many words (though not all) with the spelling sound patterns students have learned. This is done in parallel with structured phonics lessons as well as clear and detailed formative assessments to determine what support is needed for each student. Each part of the program reinforces the other.
- Text Sets - another very strong component is use of a number of books on the same or similar topics. This helps provide a context that enables decoding of new words that might not be in students' vocabulary.

Bookworms

Bookworms is a brand new K-5 program which includes three highly structured and very clear 45 minute blocks for scheduling flexibility. This program is remarkably straightforward for teachers to learn and implement while giving students everything they need from existing, language rich trade books:

- A differentiated skills block includes structured phonics with phonetically controlled readers
- A close reading block employs grade level trade literature and text dependent questions mapped to standards as well as reinforcing spelling/sound patterns learned in the skills block and working with fluency
- An interactive read aloud block with full length trade literature 2, 3 years above grade level addresses growing knowledge through rich nonfiction and fiction.

Core Knowledge Language Arts (CKLA)

The foundational skills component of Core Knowledge Language Arts (CKLA) takes a different and also powerful approach.

- Though texts in this program are phonetically controlled, they are completely engaging for students of this age because they expose children to other children who are having experiences that might be novel to them. There are stories about families traveling around the world; grandmothers who fly hang gliders; children who discover new fossils...
- These texts are a series of short stories packaged together as a book giving even kindergarten students the sense of reading a “real book”
- Teachers are given an “Assessment and Remediation Guide” that offers many hundreds of activities to reinforce spelling/sound patterns. This gives teachers easy access for materials to give to students who need more time and attention to master spelling/sound patterns.
- Here as in the ARC program students have the opportunity to reinforce spelling sound patterns both in lessons and activities growing out of a structured phonics program as well as in the texts they read; each component mutually reinforces the other.

EL Education

EL Education has the following powerful and in one case possibly unique feature.

- EL Education’s structured phonics program solves the engagement problem by using two parallel texts focused on the same topic: a simplified phonetically controlled text for students to read, and a *far* more complex “engagement” text for read aloud (whose words are not phonetically controlled and whose content and language is far richer). At certain points during the read-aloud of the engagement text, the teacher stops reading and students read the same information, but a simplified version in the phonetically controlled text. Thus the read aloud provides background knowledge and vocabulary and brings in far more engagement than the decodable texts could do on their own. This feature makes even the earliest and hence simplest decodables more engaging for students.
- In the EL structured phonics program, students have the benefit of lessons that introduce and reinforce spelling sound patterns; these spelling/sound patterns are then reinforced in the decodable texts that students read.
- EL puts great emphasis on students setting their own goals based on regular assessments of spelling/sounds. This enhances a deeper understating of spelling sound patterns as well as students’ sense of their own efficacy: a nifty one-two punch.

- In a separate part of EL's comprehensive curriculum (called the "Integrated Literacy block), students read texts on a specific topic over a number of weeks. Though these texts are not phonetically controlled, support is provided by teachers, pictures and repetition. That students are reading about a single topic across multiple weeks provides further support, since students are more likely to recognize words directly and indirectly connected to the topic.

Each of these programs has many other positive components not detailed here. What they have in common, however, and what is most important (in terms of why, despite extensive research, not enough schools include a structured phonics program) is the **combination of strong lessons teaching the spelling/sound patterns of the English language, and the opportunity for students to regularly read engaging texts that support these lessons and the essential learning of spelling/sound patterns.**

A foundational skills program that blends a strong structured phonics program with meaningful and engaging texts as these do can go a long way in addressing the needs of those students we need to help the most. And a long way in addressing the negative consequences of the Mathew Effect. Sadly, this has not been the norm in American education and is a large part of the reason that achievement gaps persist. Students who fail to decode with automaticity will fail to read with fluency; students who fail to read with fluency will fail to comprehend the rich complex text needed to succeed in college, work and life. Tragically, the vast majority of these students are those who depend on us the most, and who we need most to help.

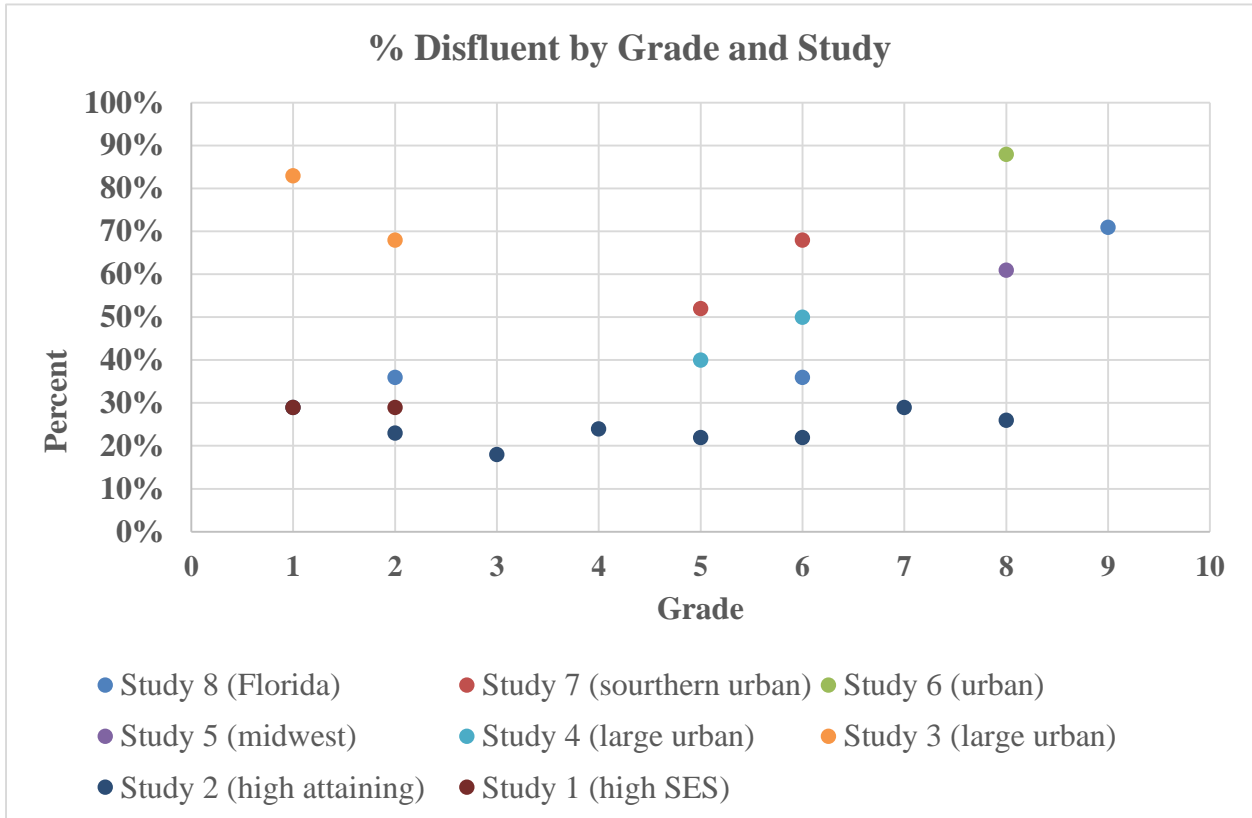
A note on interpreting the data below. All but one of these studies used the measure of “words correct per minute” (wcpm). Students scoring low on this measure are either reading words too slowly to be fluent and thus to comprehend or not accurately decoding the words. Both problems however represent a failure to develop accurate and automatic decoding in K-3 and to rectify it in later years.

Appendix Recent Research Findings

Foundational Skills Data (Research conducted by Dr. David Paige – Bellarmine University)

- Rasinski, Padak, McKeon, Wilfong, Friedauer, & Heim (2005). Assessed 313 9th-grade students in a mid-western high school; 61.3% exhibited fluency commensurate with the 25th percentile on 8th-grade norms (no 9th-grade norms exist).
- Schatschneider et al. (2004). A study of student performance in Florida in relation to the FCAT found the following:
 - 3rd grade; 36% dysfluent
 - 7th grade: 32% dysfluent
 - 10th grade: 71% dysfluentMakes a strong case for the continuation of fluency practice well into the secondary grades.
- Paige (2011). A study of 227 6th and 7th grade students in Tennessee: As a group, 6th-grade readers scored at the 32nd percentile on a standardized measure of oral reading fluency while 7th graders scored at the 17th percentile.
- Paige, Rasinski, Magpuri-Lavell, & Smith (2014): Studied 108, 9th-grade students attending an urban school in the lower Midwest. Half of students were African-American while the other half were Caucasian. On a standardized test of oral reading fluency the average attainment was at the 16th percentile. Average automaticity rate (correct-words-per-minute) was 101 (25th %ile for 8th grade) for narrative text and 94 for informational.
- Paige et al. (2016, in review). This study took place in the highest performing school district in one southern state where the percent of students receiving free- or reduced-priced lunch was less than ten percent. Two hundred and fifty (250) students attending 1st, 2nd, and 3rd grade were randomly selected for assessment with results showing that 29% of students suffered from decoding and reading fluency problems.
- Paige et al. (2016, in preparation): In a study of 274 6th and 7th students randomly selected from across a large urban district: 40% of 6th graders and 50% of 7th graders exhibited less than adequate automaticity (CWPM) when reading CCSS Lexile-leveled text. Also, 70% of 6th graders and 80% of 7th graders struggled with reading prosody.
- Paige (2016, in preparation). In a study of 4,439 students attending 2nd through 9th grade in an east coast district focusing on fluency instruction, approximately 30% to 40% of students displayed less-than-adequate automaticity (CWPM).
- Paige (2016, in preparation). 4,859 1st through 3rd graders attending 40 different schools in a large urban district were assessed for reading automaticity in the spring. Of all students, 70% to 80% struggled with automaticity.

Please see the distribution of impact of these findings in the graph on the following page. The studies on this chart represent approximately 10,000 students from 5 states.



Please contact David Paige for more on these studies: dpaige@bellarmine.edu