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TEACHING TUTORIAL: Decoding Instruction



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Teaching Tutorial: Decoding Instruction

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1. What is decoding?

Decoding has been defined as “the act of deciphering a new word by sounding it out” (Moats, 2000, p. 231). The definition, however, cannot convey the critical importance of this seemingly simple skill. In the article titled “The Role of Decoding in Learning to Read” (1995), Isabel Beck and Connie Juel describe a familiar scenario that captures the significance of learning to decode. In this scenario, a group of first grade children show rapt attention as their teacher reads *Make Way for Ducklings*. The teacher and children then discuss the story—a discussion that reveals the sophistication of the children’s oral language and the knowledge they possess about their world. Such a wonderful book, Beck and Juel point out, however, is not yet accessible to the children as readers. “Until their word recognition skill catches up to their language skill, they are unable to independently read a story that matches the sophistication of their spoken vocabularies, concepts, and knowledge” (p. 21). The beauty of teaching children to decode (sound out) words, is that it provides children with the ability to read words accurately—even if the words have never been seen before in print.

An expanded definition of decoding includes figuring out the pronunciation of a word by using one’s knowledge of the systematic relationships between sounds and letters (Snow, Burns, & Griffin, 1998, p. 52). The ability to decode words accurately and fluently gives children the opportunity to read independently, increasing the likelihood that they will do more reading and improve more quickly than those unable to decode words on their own. The sooner this level of independence can be achieved, the better.

What is phonics instruction?

Phonics refers to the *instructional strategies* used to teach children to decode words. We use the phrases “decoding instruction” and “phonics instruction” interchangeably throughout this tutorial. According to Snow, Burns, and Griffin (1998), “Phonics refers to instructional practices that emphasize how spellings are related to speech sounds in systematic ways” (p. 52). The National Reading Panel (NRP, 2000b) defined phonics instruction as “a way of teaching reading that stresses the acquisition of letter-sound correspondences and their use to read and spell words” (p. 2-89). An especially important point is that phonics instruction goes beyond simple instruction in letter-sound correspondences. Phonics instruction provides children with strategies that allow them to *apply* their letter-sound knowledge when they are reading and spelling.

For children to take maximum advantage of phonics instruction, they must first understand that spoken words can be segmented into phonemes (speech sounds). This is known as phoneme awareness. They also need beginning knowledge of the alphabetic principle—an understanding of how letters are used to represent those phonemes. For example, understanding that the spoken word *sat* has three phonemes (/s/ /a/ /t/) will help children understand the logic behind writing *sat* with three letters.

Why is phonics instruction especially important for learning to read an alphabetic writing system like English?

Because the English language is represented by an alphabetic writing system, phonics instruction is necessary to help children understand how written words transcribe spoken language. That is, children need to be taught how the letters of the alphabet combine to represent speech sounds, or phonemes. Good phonics instruction will help children realize that reading is not about memorizing words. Letter combinations

learned when reading one word (e.g., the *ai* in *rain*) can be used to decode many words with that pattern (e.g., *pain*, *gain*, *train*, and *stain*, as well as more sophisticated words, such as *campaign*, later in reading). Once children are taught the sounds that letters and letter combinations make, they can begin to decode words never seen before. With practice, decoding skills help children read words more accurately and fluently—a critically important skill that is strongly related to good reading comprehension (Snow et al., 1998).

Is there one phonics program that is best for teaching children to decode?

No one phonics program has been found to be superior to all others, although there is extensive evidence that *systematic* and *explicit* phonics instruction facilitates reading acquisition (Brady, 2011; NRP, 2000b). Box 1 explains what we mean by “systematic” and “explicit.”

It is important to note that there are many ways to sequence phonics instruction and different researchers have focused on teaching different-sized units (e.g., some begin by teaching letter-sound correspondences, but others focus on larger units called phonograms, such as *-at*, *-ost*, and *-ack*.) For purposes of this tutorial, we are going to present a model that begins by teaching children high utility sound-symbol correspondences and then teaches children to recognize the six syllable patterns in English (described later in this tutorial). This is the model used in our research studies (Blachman, 1987; Blachman, Tangel, Ball, Black, & McGraw, 1999; Blachman et al., 2004) and found to be effective in teaching children to decode.

Teaching children to decode words using systematic and explicit phonics instruction should be considered a necessary building block in the process of learning to read. This building block is necessary, but certainly not sufficient by itself. As outlined in the Report of the National Reading Panel (2000), effective reading instruction also includes, at a minimum, instruction in phonemic awareness, fluency, vocabulary, and comprehension strategies.



Systematic instruction refers to the use of a planned, logical sequence to introduce the most useful phonic elements (NRP, 2000b, p. 2-81).

Explicit instruction is when the teacher directly points out what is being taught (e.g., *a* says /a/ as in *apple*), leaving little to chance. “First graders who are at risk for failure in learning to read do not discover what teachers leave unsaid about the complexities of word learning” (Gaskins, Ehri, Cress, O’Hara, & Donnelly, 1997, p. 325).

Box 1: Definitions of “systematic” and “explicit”

2. How do we know that decoding instruction is effective?

Two influential consensus documents, the first commissioned by the National Research Council (Snow et al., 1998) and the second commissioned by Congress (National Reading Panel Report [NRP], 2000a, 2000b), reaffirmed the critical role that accurate and fluent decoding plays in becoming a skilled reader. Snow et al. concluded that “it is hard to comprehend connected text if word recognition is inaccurate or laborious” (p. 4). Without the ability to decode words accurately and fluently, comprehension will always be compromised. On the other hand, the ability to read words accurately and fluently frees up conscious attention that would otherwise have to be devoted to decoding (sounding out) words—allowing children to focus on the meaning of what they are reading.

A major stumbling block for children who are learning to read “is difficulty understanding and using the alphabetic principle—the idea that written spellings systematically represent spoken words” (Snow et al., 1998, p. 4). Phonics instruction addresses this stumbling block by systematically teaching children how spellings represent spoken words *and* by giving children the practice they need to decode these words in isolation and in text.

What does research say about phonics instruction?

The most extensive analysis of the effectiveness of systematic phonics instruction to teach decoding can be found in the meta-analysis of 38 empirical studies in the National Reading Panel Report (NRP, 2000b) (also see Ehri, Nunes, Stahl, & Willows, 2001). These studies met stringent methodological criteria set by the NRP and concluded, as have others over the last 40 years (see, for example, Adams, 1990; Brady, 2011) that systematic instruction in phonics teaches children to decode words more accurately than if they do not have this instruction.

Below are some of the major findings from the National Reading Panel (2000b, pp. 2-131-2-134) regarding *explicit, systematic phonics* instruction:

1. It is more effective than unsystematic or no phonics instruction.
2. It is effective regardless of the method of delivery (small groups, whole class, or one-on-one).
3. It has the most significant influence on growth in reading when introduced early—kindergarten or first grade—before children have started to read.
4. It has been shown to be effective in helping to *prevent* reading difficulties for young at-risk children and in helping to *remediate* reading difficulties of reading disabled students.
5. It is effective in improving the ability to decode both real words and pseudowords.
6. It significantly increases growth in reading comprehension in younger children and disabled readers above first grade.
7. It produces more growth than non-phonics instruction in spelling among kindergarten and first grade students.
8. It is helpful to children at all SES levels.

For more information about the National Reading Panel (2000b)—or to get a copy of the full report and other summary documents—go to <http://www.nationalreadingpanel.org/>

Table 1: Selected Research on the Effectiveness of Phonics Instruction for At Risk and Reading Disabled (RD) Children

Study	Subjects	Settings	Findings
Blachman et al. (2004)	69 struggling readers in 2nd & 3rd grade	One-on-one tutoring	Students tutored with explicit systematic phonics program outperformed controls on real word and nonword reading, reading rate, passage reading, comprehension, and spelling. Most gains were maintained in a 1-year follow-up.
Foorman et al. (1998)	285 at-risk readers in 1st & 2nd grade	Regular classroom	Students in classrooms where they received direct phonics instruction improved in word reading at a faster rate and had higher word recognition skills than those in classrooms with less direct phonics instruction or implicit code instruction.
Lovett et al. (2000)	85 children with severe RD, ages 6-13	Groups of 3 in lab	Phonological analysis and direct instruction in blending along with word identification strategy training provided generalized effects on word identification, comprehension, and nonword reading.
Mathes et al. (2005)	298 at-risk readers in 1st grade	Groups of 3	Two treatment groups differing in theoretical orientations received supplemental instruction in phonemic awareness, alphabetic knowledge, and decoding skills. Both groups outperformed a non-intervention group (n=101) in measures of phonological awareness, word reading, reading fluency, and spelling.
Rashotte et al. (2001)	115 impaired readers in grades 1-6	Groups of 3-5	Treatment group received phonics instruction and outperformed the control group on measures of phonological awareness, decoding, reading accuracy, comprehension, and spelling.
Torgesen et al. (2001)	60 children with severe RD, ages 8-10	One-on-one tutoring	Improvement in reading accuracy and comprehension over pretreatment progress after systematic and explicit instruction in phonemic awareness and decoding skills. Gains remained stable over 2-year follow-up period.

For more examples of research illustrating the benefits of early, systematic, explicit phonics instruction, see additional research references at the end of this tutorial and the *TeachingLD* companion piece to this tutorial, the *HotSheet* on phonological awareness (Pullen, 2005).

3. When should decoding instruction be introduced?

What will my students need to learn in order to learn to decode?

There are two important insights that help children learn to decode. The first is understanding that spoken words can be segmented into phonemes (individual sounds, such as the /u/ and /p/ in the spoken word *up*), referred to as *phoneme awareness*. Research has shown consistently that children who have some initial awareness that spoken words can be segmented (as shown, for example, by holding up a finger or moving a disk for each sound they hear as the teacher stretches out a word like *up*) are more likely to be successful readers in the early grades (Blachman, 2000; NRP, 2000b). Joanna Williams (1987) offered an explanation for the connection between phoneme awareness and reading more than 20 years ago when she wrote,

“Sometimes children have trouble learning to decode because they are completely unaware of the fact that spoken language is segmented—into sentences, into syllables, and into phonemes” (pp. 25-26).

The second important insight for learning to decode is understanding that phonemes are represented in print by the letters of the alphabet. Since decoding requires knowledge of the relationships between sounds and letters in order to figure out how to pronounce a new word, it is necessary to *teach sound-symbol correspondences explicitly*.

How many sound-symbol correspondences do the students need to know before learning to decode?

It is not necessary to wait until all sound-symbol correspondences are learned before beginning instruction in decoding. With just a small pool of known letter sounds (e.g., /a/, /m/, /t/, /s/), students can begin to decode two- and three-letter words such as *at*, *am*, *sat*, *mat*, and *Sam*. By adding just one more letter sound, such as /p/, the words that can be decoded expand to include *sap*, *tap*, *map*, *pat*, and *Pam*.

Starting decoding instruction early—as opposed to waiting until children know the sounds of all of the letters in the alphabet—allows more time for the additional practice that at-risk and struggling readers need, provides a strong foundation in this critical skill, and gives young children a sense of pride and accomplishment.

There is no agreed upon evidence-based sequence for introducing sound-symbol correspondences. It makes the most sense to begin with high utility letters such as *a*, *m*, *t*, *i*, *s*, *f*, *p*, *r* (as opposed to teaching the alphabet in order), because these high utility letters can be combined to make a large number of simple words. It is also helpful to separate similar sounds, such as /e/ and /i/, and similar letters, such as *b* and *d*, when you are teaching sound symbol correspondences (Carnine, 1976, 1980).

Over time, the sound-symbol associations that children are taught during decoding instruction increase in difficulty. Instruction in phonemes represented by single letters, such as the /t/ in *top* and the /a/ in *hat*, will be followed by the introduction of phonemes represented by letter combinations, such as the /sh/ in *ship* and eventually letter combinations that represent vowel teams, such as the /oa/ in *boat*. These more complex letter combinations will be introduced gradually as instruction focuses on more complex words.



Remember, children with knowledge of only a few letter-sound correspondences can start to learn to decode simple words! See how many words you can make using only the letters a, m, t, i, s, f, p, and r.

When to start?

Helping children acquire the important insights they need about the relationship between oral and written language—phoneme awareness and letter-sound knowledge—can begin before children reach kindergarten and facilitates learning to decode in the early grades (National Early Literacy Panel [NELP], 2008). Researchers in Australia, for example, demonstrated that 4-year old children could successfully learn to identify specific sounds in the initial and final position, using large colored posters that depicted objects that began or ended with the target phoneme. Children were taught explicitly to identify which picture

ended or began with the target sounds (an early phoneme awareness activity) and were also taught the letter that represented the target phoneme. The children who participated in these phoneme awareness and letter-sound activities (compared to children who did not) showed transfer to early reading skills at the end of the study and an advantage in both decoding and comprehension when they were tested three years later (Byrne & Fielding-Barnsley, 1991; 1995).

It is important to note, however, that many at-risk children enter kindergarten and first grade with limited knowledge about the relationships between print and speech. Some children may continue to struggle to acquire phoneme awareness and letter-sound knowledge. These children, especially, need the benefit of a well-trained teacher who recognizes when a child is lacking these important skills and who is ready to provide evidence-based instruction that will provide the foundation for learning to decode.

A classic article written by Stanovich (1986) described the downward spiral that can result if children fail to learn to decode early in the reading process. These children are exposed to less print, practice less, fail to develop the fluency that comes with practice, and are more likely to dislike reading. Without fluency, much of their attention remains focused on slow and effortful decoding, with less attention available to devote to the meaning of what they are reading. As a consequence of this, children gain less information from reading, losing valuable opportunities to increase vocabulary and knowledge about the world.

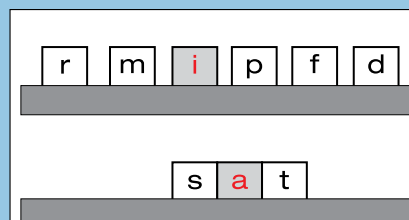
These observations were confirmed when Juel followed a group of 54 children from first to fourth grade (Juel, 1994). At the end of the fourth grade, the decoding of the poor readers was still not equivalent to average and good readers at the beginning of second grade. More recent evidence indicates that the older children get, the harder it is and the longer it takes to remediate difficulties (Torgesen, 2005), with many never catching up. Our goal should be to get all children off to a good start by providing explicit and systematic decoding instruction early, identifying those who are at risk of falling behind, and providing intervention before their deficits can become severe (Lyon et al., 2001).

4. What is needed to prepare for decoding instruction?

Some of the materials you need for decoding instruction can be easily made (e.g., word cards) and other materials are readily available in the classroom or in school libraries (e.g., paper to create a dictation notebook, trade books to practice reading words in context). Some commercial programs (see, for example, Blachman & Tangel, 2008) provide some of these materials for you (e.g., letter cards, word cards), but it is always helpful to have things like blank index cards, dry erase boards, and markers readily available so that you can individualize the program for your students. You may be working with a group of children, for example, who need to practice many more words using the short /a/ sound than are provided on the cards prepared by the commercial program you are using.

Materials needed

- **Sound cards.** Index cards can be used to create a pack of sound cards to use to both assess and teach sound-symbol correspondences. See Appendix A for a list of sound-symbol correspondences and key words to use when you create your sound pack.
- **Sound boards for each student and one for the teacher.** As illustrated in Box 2, a sound board is an individual pocket chart. Children use their sound board to manipulate grapheme (letter)



Box 2: A two-pocket sound board illustrating how children use grapheme cards to make new words.

cards (moving the grapheme cards from the top pocket where letters are stored for that day's lesson to the bottom pocket) to make and decode words with specific phonic patterns. The teacher also needs a sound board to model the activity and to provide corrective feedback if children are having difficulty.

- **Grapheme (letter) cards for each sound board.** Each sound board needs an accompanying set of grapheme cards. See Appendix B for a complete list of grapheme cards needed.
- **Word cards.** Index cards can also be used to create a pack of word cards to reinforce the particular phonic patterns being taught. Children use these cards to practice reading words accurately *and* fluently. Index cards can also be used to practice reading high-frequency words the children are being taught (e.g., *said*)—words that are seen frequently in early children's readers, but that may not be phonetically regular. It is useful to have two colors of index cards available and use one for the decodable words and another for the high-frequency words.
- **Books for oral reading.** It is helpful to have a variety of decodable readers (also referred to as phonetically controlled readers) so children have opportunities to practice using their decoding skills in connected text (e.g., Primary Phonics [Makar, 1995]; Dr. Maggie's Phonics Readers [Allen, 2003]). Many core reading programs (basal programs) now have decodable readers in addition to more traditional basal readers. Children also need to practice reading texts that are *not* phonetically controlled (children's literature, including both narrative and expository texts representing a variety of genres) to make sure they are generalizing their decoding skills to new material.
- **A notebook for each child** (or dry erase boards and markers for young children who cannot yet write easily with a pencil). The notebooks can be used to practice spelling words with the patterns that the children are learning to decode.
- **A timer or stopwatch.**
- **Blank lesson plans.** See Appendix C for a lesson plan template.



Teacher Tips:
When making both letter cards and word cards, it is helpful to write the vowels in red whether you are creating the cards by hand or printing them on the computer.

5. How do I implement decoding instruction in my class?

There are a variety of instructional sequences that have been used to teach children to decode words. The instructional model that we are describing in this tutorial begins by teaching children high utility sound-symbol correspondences and also teaching children to recognize the six syllable patterns in English. The instructional sequence is based on a simple 5-step plan that we have used in our research (see, for example, Blachman, 1987; Blachman et al., 1999; Blachman et al., 2004) and found to be effective in teaching children to decode. These simple steps have been used with at-risk students in small groups in general education classrooms and in one-to-one tutoring with second and third grade students who have been identified as reading or learning disabled. Many resource teachers have also used this instructional sequence for older students.

Overview of the 5-Step Plan

We recommend that teachers follow a 5-step plan in each daily lesson. Each step builds on the previous step and we describe each step in detail later in this section of the tutorial. Here is an overview of the steps:

1. Practice sound-symbol associations;
2. Practice phoneme analysis and blending to learn to decode words *accurately*;
3. Practice reading phonetically regular words and high-frequency irregular words (e.g., *said*) to build *fluency* in decoding single words;
4. Practice reading decodable text and traditional children's stories to build *fluency* decoding words in connected text; and
5. Practice spelling words (and sentences) from dictation that contain the patterns used in previous steps of the lesson.

Before discussing each of the five steps in detail, we are going to introduce you to the six syllable types in English that you will be teaching your students. Although the five steps in each daily lesson remain the same, the lessons increase in difficulty as each new syllable type is introduced. Learning these syllable types helps children read longer, unfamiliar words by chunking words into familiar syllable patterns. The goal is to have children become adept at “pattern recognition, not rule memorization” (Moats, 1998, p. 6).

Six Syllable Types in English

1. CLOSED SYLLABLE

- A closed syllable has one vowel and ends in one or more consonants.
- The vowel says its short sound (e.g., **a** says /a/ as in **apple**).

Examples: *it*, *fun*, *splash*

2. FINAL “E” SYLLABLE

- A final “e” syllable ends with a vowel, a consonant, and an e.
- The *e* is silent and the vowel says its long sound (says its name).

Examples: *home*, *plate*

3. OPEN SYLLABLE

- An open syllable ends in one vowel.
- The vowel says its name.

Examples: *hi*, *she*, *go*, *va/cate*

4. VOWEL TEAM SYLLABLE

- A vowel team syllable has two vowels.
- The two vowels make one sound.

Examples: *rain*, *boat*, *spoil*, *shout*

5. VOWEL + R SYLLABLE

- A vowel + *r* syllable has one vowel followed by an *r*.
- The *r* controls the pronunciation of the vowel.

Examples: *car*, *storm*, *third*, *burn*, *her*

6. CONSONANT + LE SYLLABLE

- A consonant + *le* syllable is a final syllable consisting of a consonant followed by *le*.

Examples: *ruf/fle*, *ma/pl**e*, *noo/dl**e*, *hur/dl**e*

By combining syllable patterns, students can begin to decode more complex words made up of the syllable patterns they have learned. For example, knowledge of closed syllables allows students to read a simple word like *map*, as well as words like *nap/kin* and *Wis/con/sin*. As students acquire knowledge of the remaining syllable types, it is easier for them to decode words like *in/vite*, *si/lent*, and *ser/pen/tine* by chunking the words into familiar syllable patterns.

Suggested Daily Lesson Sequence—The 5-Step Plan



1. Practice sound-symbol associations.

In this first step, new sound-symbol associations are introduced and previously taught associations are reviewed. A pack of index cards can be used as a “sound pack,” with each card containing one grapheme (a grapheme is a letter, such as *t* or *a*, or a letter cluster, such as *ai*, representing a single speech sound or phoneme). It is helpful to draw attention to the vowels by writing the vowels in red and the consonants in black. To keep this activity brief and quick-paced (2 to 3 minutes), all sounds are not included each day. You might want to review only 12 to 14 sounds and sometimes feature a new sound that is being introduced, such as /ch/. Have each child give the name of a letter, the sound it makes, and a key word that starts with that sound (such as *a* says /a/ as in *apple*), giving each child in the group several turns. The key words for the short vowels, especially, should remain consistent. These are examples of the key words that we have used for the short vowels:

- *a* says /a/ as in *apple*
- *i* says /i/ as in *itch*
- *o* says /o/ as in *octopus*
- *u* says /u/ as in *up*
- *e* says /e/ as in *Ed*



2. Practice phoneme analysis and blending to learn to decode words *accurately*.

In this step of the lesson, children are explicitly taught how to use previously learned sound-symbol associations to decode words. Remember that **new** sound-symbol associations are introduced in Step 1. Once students have automatic recognition of each new sound-symbol association, that sound can be added to the sounds used in Step 2 to increase the number of words that the children can decode. Two phoneme analysis and blending activities are used in this step of the lesson and are described below.

a. *Engelmann blending (adapted from Engelmann, 1969)*

When children are first taught to decode or sound out words, they often learn to sound words out letter-by-letter, reading *sat* as *suh-a-tuh*. To avoid the distortion that comes from sounding out a word letter-by-letter, we recommend a procedure adapted from Engelmann (1969) to teach children to pronounce as a single unit a consonant followed by a vowel. Once students have mastered this skill, they can sound out words with a minimum of distortion. For example, they learn to sound out *sat* by saying /saaa/ and then /saaat/, followed by saying the word quickly—*sat*.

The following procedure can be used to teach children to pronounce as a single unit a consonant followed by a vowel. On a dry erase board write:

s —————> a
 s —————> a
 sa
 →

Point to the *s* and model for the children by holding (or stretching out) the /s/ sound—/ssssssss/— as you move your finger from left to right. Without pausing, when you get to the /a/ sound, stretch out that sound—/aaaaaaa/. As the letters are placed closer and closer together, the length of time between the two sounds decreases until you are pronouncing the two sounds as a single unit—/sa/.

Next, have the children practice this technique by stretching out the sound of the first letter until you point to the second letter, at which time they hold or stretch out the second sound. Place the letters closer and closer together until children are pronouncing the consonant and vowel as a single unit.

Now you can add a final consonant that the children know and ask them to read the whole word. For this step you might start by first writing the following on the dry erase board:

sa
sa
sa

Ask the children to review how to pronounce the consonant and vowel as a single unit by asking them to read /sa/ three times as you point to each consonant vowel combination.

Next, add three final consonants, using letters whose sounds they already know, and ask the children to sound out the words (e.g., /saaaa/, /saaat/) and then say the whole word quickly—*sat*.

It might look like this on the dry erase board as you add each final sound:

sat
sad
Sam

The children may need to practice this procedure with other initial consonants. It is helpful in these early lessons to use continuous sounds (sounds that can be held with a minimum of distortion) in the initial position (e.g., /f/, /m/). New short vowels may also need to be practiced using this activity (e.g., /fiiiii/, /fiiiiiit/) to solidify the children's ability to pronounce the consonant and vowel as a single unit.

Most often, this activity can be used for only a short time and then eliminated from the lessons. For some children, the activity will need to be revisited—for example, when a new short vowel is introduced.

b. Phoneme analysis and blending using the sound board

The primary phoneme analysis and blending technique used in Step 2 of the lesson is built around the use of a sound board (adapted from Slingerland, 1971)—a small 11- by 14-inch pocket chart with two or three pockets to hold the grapheme (letter) cards students manipulate to make new words. Using only letter sounds that the children already know, consonants are placed in the top pocket, vowels (color-coded in red) are placed in the middle pocket, and the bottom pocket is used for manipulating these grapheme cards to build and decode new words. Remember also that letter combinations that represent a single phoneme (speech sound) are written on a single grapheme card. For example, consonants digraphs, such as *sh* and *ch*, represent a single sound and appear on a single card. Likewise, vowel teams, such as *ai* and *ea*, represent a single sound and should also appear on a single card. The letters in a consonant blend, on the other hand, such as *bl* and *st*, are written on separate cards because consonant blends do not represent a single phoneme. The letters in a consonant blend are blended, but each letter retains its own sound.



Teacher Tips:
Especially with young children, it is important to include on the sound board only the letters that will be needed to build the words in that day's lesson. The activity will go more smoothly and the children will be more successful if extra letters are not included on the sound board.

To get started, tell the children what word they are going to make, modeling the first words for the students. For example, you might instruct the children to make the word *ran*. Pronounce the word for the students, emphasizing the medial vowel. The children repeat the word, listen for the vowel sound, and select the vowel grapheme and place it in the bottom pocket. Repeat the word for the students and ask them to identify the first sound they hear, find the appropriate grapheme card and put it in front of the vowel. Finally, you might say, “Now we have /ra/. Our word is *rat*. What is the last sound we hear in *rat*?” The children then select the *t* and place it at the end of the word. Ask either an individual child or the whole group to read the word.

Next, ask the children to make a series of words, changing just one sound at a time. For example, you might ask the children to change *rat* to *fat* and then *fat* to *fan*, manipulating both initial and final sounds. When children learn a new vowel, ask the children to change *fan* to *fin*.

Examples of early sound board lessons:

Below is an example of an *early sound board sequence* that can be used when children are just learning short vowels.

mat – sat – sap – sip – sit – pit – pat

Notice that the sequence requires the children to listen for changes in the initial, final, and medial position. This is much more difficult than just asking children to make a sequence of words that rhyme (e.g., changing *mat* to *cat* to *sat* to *rat*). It is easy to get a false sense of security about what the children know if we ask the children to construct only rhyming words—they quickly learn to listen only for the initial consonant and learn that they don’t actually have to look closely at the internal structure of the word to decode it. The goal, however, is to make children as flexible as possible and asking them to listen carefully for the first, last, and middle sound builds flexibility that will carry over when they are constructing more difficult words.

When children are still working on closed syllables but have added digraphs (two consonant letters that make a single speech sound, such as *ch*, *sh*, and *ck*), the following sample sequence might be used:

bat – chat – chap – chip – ship – shin – win – wick

When consonant blends are introduced (two or three consonant letters that are blended but retain their own sounds), a sound board lesson might include these words:

lip – slip – slap – slam – clam – clap – clip – blip

Examples of later sound board lessons featuring more advanced syllable patterns:

When children are working on the final “e” syllable, try sequences modeled after this one:

kite – kit – bit – bite – bike – like – lake – lame – shame

More advanced sound board sequences look like the following—the first focuses on vowel team syllables and the second on vowel + r syllables:

team – ream – read – raid – rain – drain – drown – crown

corn – cord – card – carp – harp – hard – herd

It is also a good idea to review previously learned syllable patterns in your sound board sequences. The vowel + r sequence above could begin with the closed syllable *can*, for example, and then children make *can* into *corn*.

It is important to remember that the goal of this activity is to help children learn to decode words accurately.

Each time a new word is made on the sound board, it should be read aloud by the children before the next word is made. The sound board also provides an excellent opportunity to ask important questions about the internal structure of words. For example, if the children make the word *chin*, ask the children “How many sounds? Yes, three! Now, how many letters?”



3. Practice reading decodable words and high-frequency irregular words (e.g., *said*) to build fluency.

Once children can construct words and decode them *accurately* on the sound board, they need to practice reading words with the same phonetic pattern to develop word reading *fluency*. Again, this is a quick-paced step, taking fewer than 5 minutes, where children practice reading words in isolation. A simple technique is to put words on flash cards, color-coding the vowel initially (write it in red) and fading the color cues as children become more proficient. Have the children practice reading the words quickly. This usually requires that the children read the words more than once—the first time for accuracy and a second or third time for fluency.

Simple kitchen timers or stop watches can be used to encourage the children to read more quickly. Students enjoy beating their previous time and seeing how much more fluently they can read the words on their second or even third attempt. They also enjoy graphing their progress as the number of words they can read in a minute, for example, increases.



Teacher Tips:

- As an alternative to the sound board, kindergarten children might enjoy using a set of magnetized letters on a cookie sheet when they start to make simple three letter words.
- For older students, Scrabble® tiles are especially useful, giving the activity a more mature look. Scrabble® tiles can also be used when students are building longer, phonetically regular multi-syllable words such as *pineapple* and *lawn-mower*. Blank Scrabble® tiles can be purchased and a black marker can be used to create special tiles by writing two letters that make a single sound (e.g., consonant digraphs, such as *sh*, *ch* and vowel teams, such as *ai* and *ee*) on the back of one of the tiles.

Correcting Errors

You may notice that when a child misreads a word, the error is often on the medial vowel, for example reading *lip* incorrectly as *lap*. This is a good opportunity to have the child review the sound of the vowel /i/ and also review blending from left to right, reading the consonant and vowel as a unit—/li/—the strategy learned from Engelmann blending described in Step 2. To reinforce this strategy, you might say:

- “Look at this word again. What is the vowel? What sound does the vowel make?”
- Good, now let’s try the word again. What do the first two letters say?”

Draw your finger underneath the word from left to right as the child reads *liiii*, drawing out the vowel. Now, ask the child to start again, this time adding the final sound—reading first *liiii* and then *liiiiip*. Finally, ask the child to read the word quickly—*lip*.

A few high-frequency words that are not phonetically regular (e.g., *said*, *would*) can also be added to the pack of cards. It is helpful to print these words in a different colored font if you are using computer generated word cards (or write these words on different colored index cards) to indicate that they are not phonetically regular. High-frequency words can be selected from the core curriculum that is being used in the classroom or from published lists that include the most frequently used words in English (see, for example, the lists of Instant Words in *The Reading Teacher's Book of Lists* by Fry & Kress, 2006).



4. Practice reading decodable text *and* traditional children's stories to build fluency decoding words in connected text.

An important part of every lesson is *oral reading* of connected text. To ensure that children are transferring their decoding skills to text and becoming fluent, teachers must listen to children read orally, provide corrective feedback, and provide opportunities for repeated reading of text. We encourage the use of both decodable texts and more traditional children's books.

Decodable texts give children the opportunity to practice reading the phonetically regular patterns that they have been learning in other steps of the lesson and serve as a bridge to more traditional text. The struggling reader may not make the connection between the words with the final "e" pattern, for example, that they constructed on the sound board earlier in the lesson and the same pattern seen in text, unless the teacher is listening to the child read and able to point out the connection if the student falters.

There are a variety of decodable texts available, such as *Primary Phonics* (Makar, 1995) and *Dr. Maggie's Phonics Readers* (Allen, 2003), and many of the new basal programs have a separate set of decodable readers that can be used to reinforce the patterns that have been taught, especially during the early stages of instruction.

As noted earlier, it is also important to give students an opportunity to transfer their decoding skills to texts that are not phonetically controlled. Such texts can come from the anthologies in the core curriculum or popular trade books, including both narrative and expository text. Initially, teachers may need to provide varying degrees of support when the children are reading books that are not phonetically controlled, including doing more of the reading, alternating reading with the student, or just supplying unknown words. The child's reading level and interests can be a guide in selecting these books for oral reading practice.

It is important to remember, as noted in the Report of the National Reading Panel (2000a), that "fluency is one of several critical factors necessary for reading comprehension." (p. 11). To develop the fluency necessary to support good comprehension, students need to have ample opportunity to practice their decoding skills by reading and rereading a wide variety of texts with corrective feedback from the teacher. (For more suggestions about improving the fluency of students who already can decode accurately, see *TeachingLD's* tutorial on fluency by Beth Harn and David Chard, 2009.)



5. Practice spelling words that contain the patterns used in previous steps of the lesson.

The last step in the daily lesson is writing words (and one or two sentences) that contain the patterns used in previous steps of the lesson.



Teacher Tips

Store word cards in recipe boxes sorted by vowel and syllable types so you can reuse them more easily in the future. The high-frequency words can be stored alphabetically.

Each student should have a dictation notebook to record the words dictated by the teacher. At the start of this activity, tell the students what vowels will be the target sounds for that day's lesson. For example, an early dictation lesson might have three target sounds—short /a/, /i/, and /o/—assuming that the students can already make words with these sounds on the sound board in Step 2 and read words with these sounds on flash cards in Step 3. Have students write the letters that make these sounds as headings on one page in their dictation notebook. Dictate the first word, such as *ship*. Teach the children to say the word slowly—stretching out the word and listening for the vowel—and then have children write the word under the correct vowel heading.

Once all of the words have been dictated, dictate one or two sentences that also reinforce the same vowel patterns. All of the single words that are dictated should be phonetically regular, but a few high-frequency words (e.g., *the*) might be included in the dictated sentence. If the student does not yet know how to spell the high-frequency words, show them the correct spelling. An early lesson might include only four to six dictated words and a single sentence.

Below is a sample of a dictation page for a lesson featuring closed syllables with single consonants and closed syllables with blends and digraphs:

<u>a</u>	<u>i</u>	<u>o</u>
hat	slim	clog
champ	wilt	hot
Jan will skip and jump to the pond.		



The goal is to help students understand that, at least in the early stages of spelling, they can spell the words that they can decode by using the sound-symbol relationships they know.

As the students progress, the vowel headings will represent more complex patterns, such as vowel teams. The headings for a later lesson might include *ai*, *oa*, and *ou*. At this stage it is not expected that children will be able to spell every word that they can read. There are multiple ways to spell a single sound; so the children might be able to read the word *rain*, but they might not know if it is spelled *rain* or *rane* — although if *ai* is the only heading that makes the long /a/ sound in that day's lesson, the children will have an opportunity to reinforce the correct spelling when they write the word. More experience seeing words in print will help children solidify correct spellings for these more complex patterns. As children progress, a dictation activity might include six to eight words and two sentences, depending on the skills of the children.

Watching the children write the dictated words provides an opportunity to evaluate student progress on the target sounds for the day's lesson. At the end of the activity, the children should read aloud each word and sentence they were asked to write—and discuss what sounds need to be changed if corrections are needed.

The dictation notebooks can also be used to monitor progress as students move from writing and reading simple closed syllable words (*chop*) to more complex syllable types (*bake, loud, churn*). When students progress to multisyllable words (such as *reptile, bugle, and tarnish*) made up of the syllable patterns they have learned, they can also transition to writing words in a more traditional list format instead of using vowel headings.

6. How does one know decoding instruction is working?

It is important to assess students' progress in decoding single words *and* to assess whether these word-level skills are transferring to reading connected text (Murray, Munger, & Clonan, 2012).

With regular assessment you will be able to determine which children in a group have mastered each new decoding pattern and which children are putting that skill to use in their oral reading. You will also be able to identify which children are lagging behind and provide the necessary reinforcement they need.

Remember, assessment data will be most helpful if you:

1. Collect baseline data. Baseline data will tell you what skills your students possess *before* you start instruction and help you form flexible instructional groups.
2. Regularly collect and review data *during* instruction. This is often referred to as “progress monitoring.”
3. Use your data to make instructional decisions (e.g., decide when students are ready for the introduction of more complex skills; decide which students need more practice).

Two important questions

1. Are students learning to decode individual words?

You can answer this question through the use of published assessment instruments, such as the *Test of Word Reading Efficiency* (TOWRE) (Torgesen, Wagner, & Rashotte, 1999) or the *Quick Phonics Screener* (QPS) (Hasbrouck, 2011) and/or you can create your own informal decoding measure.

A simple technique for creating your own decoding measure is to compile a list of about 20 words that represent the syllable type you are planning to teach. You can use the list to gather baseline data and, after teaching the syllable type, you can use the list to assess mastery. Box 3 shows an example of what this informal list might look like for



Remember, although the focus of this tutorial is on how to implement decoding instruction in your classroom, decoding instruction is never a complete reading program. Vocabulary, comprehension, and frequent opportunities for text-based reading should not be neglected while working on decoding!

ham	lit	mop	hug	pen
sad	fin	cob	pun	get
van	rid	job	dug	yes
path	ship	rock	chum	less

Box 3: A sample decoding probe with simple words that would permit a teacher to assess progress in reading individual words fluently and accurately.

simple closed syllable words with single consonants, digraphs (*th*, *sh*, *ck*, and *ch*), and words with a double final consonant (-ss). Use large type for the student reading page or put each word on a separate card. Keep a separate sheet with the words in the same order to use as a recording form.

Have students read the words in each row from left to right. Record each error on your recording form. That is, if the student reads *lit* as *let*, write the error so that you can analyze the errors later. Notice that although children are reading from left to right, all the words in each column have the same phonetic pattern (e.g., in the first column all of the words contain the short /a/ sound). If a child misses two or more words in a column, you will know that the child needs more review of that pattern. When looking at responses to the entire list, you might want to use 80% correct as an indication that a young child has mastered this pattern and is ready to move on. You are free to alter the required level of mastery when using informal lists and you might elect to use a more lenient level (e.g., 75%) or a more stringent level (e.g., 90%), depending on the age and skill level of your students.

The same format can be used to create measures to assess each syllable pattern. You can get more detailed information about the skill level of your students by creating multiple lists for each syllable type. For example, the sample above contains **only** closed syllables with single consonants and digraphs (i.e., letter combinations that make a single sound, like *sh*). You might also want to create a list of more complex closed syllable words by adding blends (e.g., *stamp*, *blend*).

2. Are students transferring their decoding skills to oral reading of connected text?

Learning to decode isolated words accurately and fluently is necessary, but not sufficient to become a competent reader. Children need to be able to use their decoding skills to read connected text. It is easy to get a false sense of security about the progress students are making if students are assessed only with single word lists and not asked to read text orally.

A simple procedure, described in detail by Hasbrouck (2011), can help you measure your students' oral reading accuracy and fluency. Select several passages from general education classroom texts and ask students to read orally for one minute from a selection of text that they have not seen before. Calculate a words-correct-per-minute (WCPM) score by subtracting the errors from the total number of words read in one minute. If you are selecting passages from classroom texts, Hasbrouck suggests that you might want the children to read individually from two or three passages and take the average. With standardized passages (from instruments like *DIBELS* [Good & Kaminski, 2002], *Read Naturally* [Ihnot, 2003], and *AIMSweb* [2001]), you may only need to have the children read a single passage to get a reliable measure of their speed and accuracy. Once you have a WCPM score, you can compare it to grade level norms. As shown in Table 2, Hasbrouck and Tindal (2006) have developed guidelines based on a large national sample for grade level norms that you can use for comparison purposes at three times during the school year (see also <http://www.readnaturally.com/pdf/oralreadingfluency.pdf>).

See Table 2 Next Page

Table 2: Hasbrouck and Tindal's Oral Reading Fluency Norms for Grades 1-4

Percentile	Fall	Winter	Spring
	Words correct per minute (WCPM)		
Grade 1			
90	-	81	111
75	-	47	82
50	-	23	53
25	-	12	28
10	-	6	15
Grade 2			
90	106	125	142
75	79	100	117
50	51	72	89
25	25	42	61
10	11	18	31
Grade 3			
90	128	146	162
75	99	120	137
50	71	92	107
25	44	62	78
10	21	36	48
Grade 4			
90	145	166	180
75	119	139	152
50	94	112	123
25	68	87	98
10	45	61	72

Adapted from Hasbrouck and Tindal, 2006; copyright *The Reading Teacher*; used by permission.

Remember, in order to improve text reading fluency during instruction, the NRP (2000b) found that the most effective approach is for children to read orally with corrective feedback from the teacher. As we outlined in the previous section of this tutorial, this is an important strategy for facilitating transfer of decoding single words to decoding words in text.

7. Where can one get additional information about decoding?

Books and Monographs

- Adams, M. J. (1990). *Beginning to read: Thinking and learning about print*. Cambridge, MA: MIT Press.
- Armbruster, B. B., Lehr, F., & Osborn, J. (2001). *Put reading first: The research building blocks for teaching children to read*. Washington, DC: Center for the Improvement of Early Reading Achievement.
- Beck, I. L. (2006). *Making sense of phonics: The hows and whys*. New York: Guilford Press.
- Blachman, B. A. (Ed.). (1997). *Foundations of reading acquisition and dyslexia: Implications for early intervention*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Burns, M. S., Griffin, P., & Snow, C. E. (1999). *Starting out right: A guide to promoting children's reading success*. Washington, DC: National Academies Press.
- Carnine, D. W., Silbert, J., Kame'enui, E. J., Tarver, S. G., & Jungjohann, K. (2006). *Teaching struggling and at-risk readers: A direct instruction approach*. Upper Saddle River, NJ: Pearson Merrill Prentice Hall.
- Dickinson, D. K., & Neuman, S. B. (Eds.). (2006). *Handbook of early literacy* (Vol. 2). New York: Guilford Press.
- Engelmann, S. (1969). *Preventing failure in the primary grades*. Chicago: Science Research Associates.
- Fletcher, J. M., Lyon, G. R., Fuchs, L. S., & Barnes, M. A. (2006). *Learning disabilities: From identification to intervention*. New York: Guilford Press.
- Foorman, B. R. (Ed.). (2003). *Preventing and remediating reading difficulties: Bringing science to scale*. Timonium, MD: York Press.
- Hall, S. L., & Moats, L. C. (1999). *Straight talk about reading: How parents can make a difference in the early years*. Chicago: Contemporary Books.
- Hosp, M. K., Hosp, J., & Howell, K. W. (2007). *The ABCs of CBM: A practical guide to curriculum-based measurement*. New York: Guilford Press.
- Juel, C. (1994). *Learning to read and write in one elementary school*. New York: Springer-Verlag.
- McCardle, P., & Chhabra, V. (Eds.). (2004). *The voice of evidence in reading research*. Baltimore: Brookes Publishing.
- Moats, L. C. (1999). *Teaching reading is rocket science*. Washington, DC: American Federation of Teachers.
- Moats, L. C. (2000). *Speech to print: Language essentials for teachers*. Baltimore, MD: Brookes Publishing.
- National Early Literacy Panel (2008). *Developing early literacy: Report of the National Early Literacy Panel*. Washington, DC: National Institute for Literacy.
Available at <http://lincs.ed.gov/earlychildhood/NELP/NELPreport.html>

- National Reading Panel (2000a). *Report of the National Reading Panel: Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction*. (NIH Publication No. 00-4769). Washington, DC: National Institute of Child Health and Human Development, National Institutes of Health.
- National Reading Panel. (2000b). *Report of the National Reading Panel: Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction: Reports of the subgroups*. (NIH Publication No. 00-4754). Washington, DC: National Institute of Child Health and Human Development, National Institutes of Health.
- Pullen, P. C., (2005). 5 Effective practices for phonological awareness. *TeachingLD HotSheet*, 2. Retrieved from http://TeachingLD.org/hot_sheets.
- Slingerland, B. H. (1971). *A multisensory approach to language arts for specific language disability children: A guide for primary teachers*. Cambridge, MA: Educators Publishing Service.
- Snow, C. E., Burns, M. S., & Griffin, P. (Eds.). (1998). *Preventing reading difficulties in young children*. Washington, DC: National Academies Press.

Chapters in Books

- Brady, S. A. (2011). Efficacy of phonics teaching for reading outcomes: Indications from post-NRP research. In S. A. Brady, D. Braze, & C. A. Fowler (Eds.), *Explaining individual differences in reading: Theory and research* (pp. 69-96). New York: Psychology Press.
- Blachman, B. A. (1987). An alternative classroom reading program for learning disabled and other low achieving children. In R. Bowler (Ed.), *Intimacy with language: A forgotten basic in teacher education* (pp. 49-55). Baltimore: Orton Dyslexia Society.
- Blachman, B. A. (2000). Phonological awareness. In M. L. Kamil, P. B. Mosenthal, P. D. Pearson, & R. Barr (Eds.), *Handbook of reading research* (Vol. 3). Mahwah, NJ: Lawrence Erlbaum Associates.
- Blachman, B. A. (2007). The importance of phonological awareness and decoding for early literacy instruction. In B. Guzzetti (Ed.), *Literacy for the new millennium: Early literacy* (Vol. 1) (pp. 95-110). Westport, CT: Praeger Publishers.
- Blachman, B. A. (2011). Teaching reading. In P. Hogan (Ed.), *The Cambridge encyclopedia of the language sciences* (pp. 845-848). Cambridge, U.K.: Cambridge University Press.
- Ehri, L. C. (1997). Sight word learning in normal readers and dyslexics. In B. A. Blachman (Ed.), *Foundations of reading acquisition and dyslexia: Implications for early intervention* (pp. 163-189). Mahwah, NJ: Lawrence Erlbaum Associates.
- Ehri, L.C. (1998). Grapheme-phoneme knowledge is essential for learning to read words in English. In J. Metsala & L. Ehri (Eds.), *Word recognition in beginning reading* (pp. 3- 40). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Johnston, R. S., & Watson, J. (2004). Accelerating word reading, spelling, and comprehension skills with synthetic phonics. In M. Turner & J. Rack (Eds.), *The study of dyslexia* (pp. 157-173). New York: Kluwer.

- Juel, C. (1991). Beginning reading. In R. Barr, M. L. Kamil, P. B. Mosenthal, & P. D. Pearson (Eds.), *Handbook of reading research* (pp. 759-788). New York: Longman.
- Lieberman, I. Y., & Shankweiler, D. (1991). Phonology and beginning reading: A tutorial. In L. Rieben & C. A. Perfetti (Eds.), *Learning to read: Basic research and its implications* (pp. 3-17). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Lyon, G. R., Fletcher, J. M., Shaywitz, S. E., Shaywitz, B. A., Torgesen, J. K., Wood, F. B., Schulte, A., & Olson, R. (2001). Rethinking learning disabilities. In C. E. Finn, A. J. Rotherham, & C. R. Hokanson (Eds.), *Rethinking special education for a new century* (pp. 259-287). Washington, DC: Progressive Policy Institute and Thomas B. Fordham Foundation.
- Torgesen, J. K. (2005). Recent discoveries from research on remedial interventions for children with dyslexia. In M. Snowling & C. Hulme (Eds.), *Advances from research on dyslexia* (pp. 521-537). Oxford: Blackwell Publishers.
- Williams, J. P. (1987). Educational treatments for dyslexia at the elementary and secondary levels. In R. Bowler (Ed.), *Intimacy with language: A forgotten basic in teacher education* (pp. 49-55). Baltimore: Orton Dyslexia Society.

Journal Articles

- Beck, I. L., & Juel, C. (1995). The role of decoding in learning to read. *American Educator, Summer, 8*, 21-25, 39-42.
- Blachman, B. A., Schatschneider, C., Fletcher, J. M., Francis, D. J., Clonan, S., Shaywitz, B., et al. (2004). Effects of intensive reading remediation for second and third graders. *Journal of Educational Psychology, 96*, 444-461.
- Blachman, B. A., Tangel, D. M., Ball, E., Black, R., & McGraw, C. (1999). Developing phonological awareness and word recognition skills: A two-year intervention with low- income, inner-city children. *Reading and Writing: An Interdisciplinary Journal, 11*, 239- 273.
- Byrne, B., & Fielding-Barnsley, R. (1991). Evaluation of a program to teach phonemic awareness to young children. *Journal of Educational Psychology, 83*, 451-455.
- Byrne, B., & Fielding-Barnsley, R. (1995). Evaluation of a program to teach phonemic awareness to young children: A 2- and 3-year follow-up and a new preschool trial. *Journal of Educational Psychology, 87*, 488-503.
- Carnine, D. W. (1976). Similar sound separation and cumulative introduction in learning letter-sound correspondences. *The Journal of Educational Research, 69*(10), 368-372.
- Carnine, D. W. (1980). Two letter discrimination sequences: High-confusion-alternatives first versus low-confusion-alternatives first. *The Journal of Reading Behavior, 12*(1), 41-47.
- Chard, D. J., Vaughn, S., & Tyler, B. J. (2002). A synthesis of research on effective interventions for building reading fluency with elementary students with learning disabilities. *Journal of Learning Disabilities, 35*, 386-406.

- Cunningham, A. E. (1990). Explicit versus implicit instruction in phonemic awareness. *Journal of Experimental Child Psychology*, 50, 429-444.
- Cunningham, A. E., Stanovich, K. E., & Stanovich, P. J. (2004). Disciplinary knowledge of K-3 teachers and their knowledge calibration in the domain of early literacy. *Annals of Dyslexia*, 54, 139-167.
- Ehri, L. C. (2005). Learning to read words: Theory, findings, and issues. *Scientific Studies of Reading*, 9, 167-188.
- Ehri, L. C., Nunes, S. R., Stahl, S. A., & Willows, D. M. (2001). Systematic phonics instruction helps students learn to read: Evidence from the National Reading Panel's meta-analysis. *Review of Educational Research*, 71, 393-447.
- Foorman, B. R., Francis, D. J., Fletcher, J. M., Schatschneider, C., & Mehta, P. (1998). The role of instruction in learning to read: Preventing reading failure in at-risk children. *Journal of Educational Psychology*, 90, 37-55.
- Foorman, B. R., & Torgesen, J. K. (2001). Critical elements of classroom and small-group instruction to promote reading success in all children. *Learning Disabilities Research and Practice*, 16, 203-121.
- Gaskins, I. W., Ehri, L. C., Cress, C., O'Hara, C., & Donnelly, K. (1997). Procedures for word learning: Making discoveries about words. *The Reading Teacher*, 50, 312-327.
- Harn, B., & Chard, D. (2008). Repeated readings to promote fluency. *TeachingLD Tutorial*, 6. Available from <http://TeachingLD.org>.
- Hasbrouck, J. (2006). Drop everything and read—but how? *American Educator*, Summer, 22-29, 30-31, 46-47.
- Hasbrouck, J., & Tindal, G. A. (2006). Oral reading fluency norms: A valuable assessment tool for reading teachers. *The Reading Teacher*, 59, 636-644.
- Hatcher, P., Hulme, C., & Ellis, A. W. (1994). Ameliorating early reading failure by integrating the teaching of reading and phonological skills: The phonological linkage hypothesis. *Child Development*, 65, 41-57.
- Juel, C., & Minden-Cupp, C. (2000). Learning to read words: Linguistic units and instructional strategies. *Reading Research Quarterly*, 35, 458-492.
- Kuhn, M. R., & Stahl, S. A. (2003). Fluency: A review of developmental and remedial practices. *Journal of Educational Psychology*, 95, 3-21.
- Lovett, M. W., Lacerenza, L., Borden, S. L., Frijters, J. C., Steinbach, K. A., & DePalma, M. (2000). Components of effective remediation for developmental reading disabilities: Combining phonologically and strategy-based instruction to improve outcomes. *Journal of Educational Psychology*, 92, 263-283.
- Lyon, G. R. (2002). Reading development, reading difficulties, and reading instruction: Educational and public health issues. *Journal of School Psychology*, 40, 3-6.
- Mathes, P. G., Denton, C. A., Fletcher, J. M., Anthony, J. L., Francis, D. J., & Schatschneider, C. (2005). The effects of theoretically different instruction and student characteristics on the skills of struggling readers. *Reading Research Quarterly*, 40, 148-182.
- Moats, L. C. (1998) Teaching decoding. *American Educator*, Summer, 1-9.
Available at <http://www.aft.org/pdfs/americaneducator/springsummer1998/moats.pdf>

- Moats, L. C. (2006). How spelling supports reading: And why it is more regular and predictable than you may think. *American Educator*, Winter, 12-24.
- Murray, M. S., Munger, K. A., & Clonan, S. M. (2012). Assessment as a strategy to increase oral reading fluency. *Intervention in School and Clinic*, 47, 144-151.
- Piasta, S. B., Connor, C. M., Fishman, B. J., & Morrison, F. J. (2009). Teachers' knowledge of literacy concepts, classroom practices, and student reading growth. *Scientific Studies of Reading*, 13, 224-248.
- Pikulski, J. J., & Chard, D. J. (2005). Fluency: Bridge between decoding and reading comprehension. *The Reading Teacher*, 58, 510-519.
- Rashotte, C. A., MacPhee, K., & Torgesen, J. K. (2001). The effectiveness of a group reading instruction program with poor readers in multiple grades. *Learning Disabilities Quarterly*, 24, 31-73.
- Rayner, K., Foorman, B. R., Perfetti, C. A., Pesetsky, D., & Seidenberg, M. S. (2002, March). How should reading be taught? *Scientific American*, 286, 85-91.
- Stanovich, K. E. (1986). Matthew effects in reading: Some consequences of individual differences in the acquisition of literacy. *Reading Research Quarterly*, 21, 360-407.
- Tangel, D. M., & Blachman, B. A. (1995). Effect of phoneme awareness instruction on the invented spelling of first-grade children: A one-year follow-up. *Journal of Reading Behavior*, 27, 153-185.
- Torgesen, J. K. (1998). Catch them before they fall: Identification and assessment to prevent reading failure in young children. *American Educator*, Spring/Summer, 32-39.
- Torgesen, J. K., Alexander, A. W., Wagner, R. K., Rashotte, C. A., Voeller, K. K. S., & Conway, T. (2001). Intensive remedial instruction for children with severe reading disabilities: Immediate and long-term outcomes from two instructional approaches. *Journal of Learning Disabilities*, 34, 33-58.
- Vellutino, F. R., Scanlon, D. M., Sipay, E. R., Small, S. G., Pratt, A., Chen, R. S., & Denckla, M. B. (1996). Cognitive profiles of difficult to remediate and readily remediated poor readers: Early intervention as a vehicle for distinguishing between cognitive and experiential deficits as basic causes of specific reading disability. *Journal of Educational Psychology*, 88, 607-638.

Published Curriculum Materials

- Adams, M. J., Foorman, B. R., Lundberg, I., & Beeler, T. (1998). *Phonemic awareness in young children*. Baltimore: Brookes Publishing.
- Allen, M. (2003). *Dr. Maggie's phonics readers: A new view*. Cypress, CA: Creative Teaching Press, Inc.
- Bear, D. R., Invernizzi, M., Templeton, S., Johnston, F. (2000). *Words their way: Word study for phonics, vocabulary, and spelling instruction*. Columbus, Ohio: Merrill.
- Blachman, B. A., Ball, E., Black, R., & Tangel, D. M. (2000). *Road to the code: A phonological awareness program for young children*. Baltimore: Brookes Publishing.

- Blachman, B. A. & Tangel, D. M. (2008). *Road to reading: A program for preventing and remediating reading difficulties*. Baltimore: Brookes Publishing.
- Fry, E. B., & Kress, J. E. (2006). *The reading teacher's book of lists*. New York: John Wiley & Sons.
- Johnston, F. R., Invernizzi, M., & Juel, C. (1998). *Book Buddies: Guidelines for volunteer tutors of emergent and early readers*. New York: Guilford Press.
- Makar, B. (1995). *Primary phonics*. Cambridge, MA: Educators Publishing Service, Inc.

Screening Measures and Assessments

- AIMSweb. (2001). *Reading Curriculum Based Measurement—Oral Reading Fluency*. Eden Prairie, MN: Edformation, Inc. Available: <http://www.aimsweb.com/>
- Good, R. H., & Kaminski, R. A. (Eds.). (2002). *Dynamic Indicators of Basic Early Literacy Skills* (6th ed.). Eugene, OR: Institute for the Development of Educational Achievement. Available: <http://dibels.uoregon.edu/>
- Hasbrouck, J. (2011). *Quick Phonics Screener (2nd ed.)*. Saint Paul, MN: Read Naturally.
- lnhot, C. (2003). *Read Naturally*. Saint Paul, MN: Read Naturally, Inc.
- Lembke, E. & Busch, T. (2004). Curriculum-based measurement in reading: Oral fluency. *TeachingLD Tutorial*, 4. Available from <http://TeachingLD.org>.
- Torgesen, J., Wagner, R., & Rashotte, C. (1999). *Test of Word Reading Efficiency (TOWRE)*. San Antonio, TX: Pearson Education, Inc.

Appendix A: List of Sound-Symbol Correspondences and Key Words

Print letter(s) on front of sound card in colors indicated.
Lightly write the key word on the back of the sound card.

Single Consonants (print in black)

b	bear
c	comb
d	dog
f	fan
g	gum
h	horse
j	jack
k	key
l	lion
m	mirror
n	nap
p	pipe
qu	quarter
r	ring
s	scissors
t	turtle
v	violin
w	watch
x	fox
y	yo-yo
z	zipper

Short vowels (print in red)

a	apple
i	itch
o	octopus
u	up
e	Ed
y	gym

Vowel-Consonant-E

(print letters red and dash black)

a_e	game
e_e	Pete
i_e	hide
o_e	rope
u_e	mule, tune

Vowel Team (print in red)

ai	rain
ay	stay
ea	eat, bread, steak
ee	feet
ie	pie
oo	school, book
ou	out
ow	snow, plow
oa	coat
oe	toe
oi	coin
oy	joy
au	autumn
aw	paw
ew	new

Consonant Digraphs (print in black)

ch	chop
th	thumb
sh	shin
ck	neck
wh	when
ph	phone

Vowel + R (print in red)

ar	star
or	corn
ir	dirt
er	her
ur	fur

Open Syllables (print in red)

a	la dy
e	re cess
i	Fri day
o	o pen
u	ru by, hu man
y	cy cle

Consonant + LE (print in black)

-tle	lit tle
-ple	ap ple
-dle	han dle
-ble	bub ble
-fle	raf fle
-gle	wig gle
-cle	un cle
-zle	puz zle

Soft c, g, (print in black)

c – followed by e, i, y
makes the /s/ sound

g – followed by e, i, y
makes the /j/ sound

Appendix B: List of Grapheme (Letter) Cards for the Sound Board

Print graphemes in colors indicated

Single Consonants (print in black)

b
c
d
f
g
h
j
k
l
m
n
p
qu
r
s
t
v
w
x
y
z

Vowels (print in red)

a
e
i
o
u
y

Vowel Teams (print in red)

ai
ay
ea
ee
ie
oo
ou
ow
oa
oe
oi
oy
au
aw
ew

Consonant Digraphs (print in black)

ch
th
sh
ck
wh
ph

Vowel + R (print in red)

ar
or
ir
er
ur

Appendix C: Lesson Plan

Date _____ Student name(s) _____

1. Practice Sound-Symbol Associations—Sound Cards

2. Practice Phoneme Analysis and Blending—Sound Board

Optional blending activity - list patterns to be used (e.g., sa, fa, ma): _____

Sound board target skill(s): _____ , _____

Words: _____

3. Read Phonetically Regular and High-Frequency Words—Word Cards

Phonetically regular words:

High-frequency words:

4. Read Connected Text - Decodable and Other Texts

Decodable book (Level and Pages):

Trade book for reinforcement:

5. Spell Dictated Words and Sentences—Dictation Notebook

Words:

Sentences (one or two):