

Phonological Awareness

If you work in an elementary school, you most likely have heard the term *phonological awareness*, which refers to the ability to hear and manipulate speech sounds, an oral language ability. Phonological awareness encompasses a broad range of tasks that involve understanding and using speech sounds and word parts. Because some students with dyslexia have difficulty with phonological awareness, you will need to help them develop and improve these skills. Examples are rhyming words, combining the two parts of a compound word, counting the number of syllables within words, blending (merging together sounds or parts of words to create spoken words), segmenting (breaking apart sounds or syllables of words), and phonemic manipulation (altering the order of sounds in a spoken or written word). A related term, *phonemic awareness*, refers to hearing and using individual speech sounds in words; it includes activities such as blending sounds, which is initially needed to read words (e.g., putting together the sounds /b/, /ă/, and /g/ to form the word *bag*), and segmenting sounds, which is initially needed to spell words. English has 40 to 44 phonemes (individual speech sounds [e.g., *cat* has three phonemes: /k/ /ă/ /t/]). The difference in the number of phonemes is the result of dialect differences across the country. For example, in some places, a short *e* sound (/ĕ/) and a short *i* sound (/ĭ/) are pronounced in the same way. The most important phonological awareness tasks for reading and spelling are blending, segmenting, and phonemic manipulation.

Progression of Skills

With blending, segmenting, and phonemic manipulation, some tasks are easier than others. A common progression is beginning with compound words (e.g., *raincoat*), then syllables (e.g., *car-pen-ter*), and finally phonemes (e.g., /s/ /ŭ/ /n/). Some programs also teach onset and rime patterns after they teach syllables. In a syllable, the onset is the initial consonant or consonants that precede the vowel (e.g., the *c* in *c-at*); the rime is the ending part that begins with a vowel (e.g., the *-at* in *c-at*).

- **Compound words:** With compound words, some children in the primary grades benefit from seeing two pictures (such as a picture of *rain* and a picture of a *coat*), pushing the two pictures together to form *raincoat*, and then pulling them apart to form the two words.
- **Syllables:** One easy way to count the syllables in a word is to say a word slowly with your hand on your chin and count the number of chin drops. This usually works because a vowel sound makes us open our mouths. An alternative for children in kindergarten and first grade is forming “fish lips”: Purse your lips like a fish; clip your fingers around your lips; and say the word slowly, counting the number of movements.
- **Phonemes:** The most difficult tasks involve working with phonemes. Often these tasks are taught using manipulatives, also called tokens. These objects can be used to represent individual speech sounds or larger units of sounds (e.g., entire words, syllables). For example, push a block forward for each sound you hear in a word and then color-code the blocks so that the vowel sound is a different color than the consonant sounds. Instruction with phonemes usually begins with two-letter words (e.g., *me*, *so*) and regular consonant-vowel-consonant (CVC) words (e.g., *cat*, *hot*).

Teaching Blending

Blending speech sounds provides the basis for learning phonics, an instructional reading method for teaching students the relationships between the individual speech sounds and the letter or letters that represent these sounds and how to apply these sound-symbol correspondences to reading and spelling. Determine if the student can push together compound words, syllables, and phonemes and then start the instruction where needed. When introducing phonemes, begin with continuous consonant sounds, sounds that can be sustained as long as a person has breath (e.g., /f/, /m/, /r/, /s/). Practice pushing together the phonemes in words that have regular phoneme-grapheme correspondence, where each speech sound matches the most common grapheme (the letter or letter combination that

represents a single speech sound [e.g., the *l* in *lap*, the *tch* in *catch*]) for that spelling. Start with words with two or three speech sounds and then progress to words with four speech sounds (e.g., *me*, *tree*, *treat*).

Teaching Segmenting

Spelling requires the ability to segment the speech sounds in words. When first learning to spell words, we break the word apart into phonemes and then assign letters (graphemes) to each sound we hear. Determine if the student can break apart compound words, syllables, and phonemes. Start the instruction where needed. If the student has limited mastery, begin with tasks that require the student to break apart compound words (e.g., *raincoat*). Once compound words have been mastered, progress to syllables. When the student has learned to break words into syllables (e.g., *car-pen-ter*, *hos-pi-tal*), work with individual phonemes (e.g., /s/ /ă/ /d/, /b/ /ă/ /t/). The most essential part of this instruction is working with individual phonemes.

You may reinforce this instruction using blocks or tokens. Have the student pull apart the blocks for each part of the word. Start with compound words with two parts; then progress to words with two syllables and then three. At the phoneme level, progress from words with two speech sounds, to three, and then to four. Practice breaking apart the phonemes

in words that have regular phoneme–grapheme correspondence, where each speech sound matches the most common grapheme for that spelling.

Teaching Manipulation

Manipulation activities require the student to rearrange the word parts or sounds within a word. These types of activities involve tasks such as the substitution and deletion of sounds in words. Examples of substitution tasks are (a) Change the *base* in *baseball* to *soft*. (b) Change the *-ing* in *swimming* to */er/*. (c) Change the */b/* in *bat* to */s/*. Examples of deletion tasks are (a) Say *baseball* without saying *ball*. (b) Say *forget* without saying *get*. (c) Say *cart* without saying */k/*. These types of tasks may help students learn to analyze the internal structure of a word more carefully.

Additional Considerations

For students with dyslexia, training in phonological awareness is often critical and provides the basis for developing efficient word identification and spelling skills. As a general principle, instruction is most effective when phonological awareness training is combined with instruction using letters, word reading, and spelling, discussed in the Orthographic Mapping and Sight Words section, next.

Phonics and Structural Analysis

Phonics is an instructional reading method for teaching students the relationships between the individual speech sounds and the letter or letters that represent these sounds and how to apply these sound–symbol correspondences to reading and spelling. Most students with dyslexia need to begin reading and spelling instruction with a phonics approach. Once students can apply sound–symbol relationships to unlock unfamiliar words, instruction expands to include structural analysis, the ways in which a reader breaks apart longer words to make them easier to pronounce. For example, in multisyllabic words, we can separate the syllables or affixes and other meaningful units. An affix is a word part (prefix or suffix) that is attached to a root or a base word to form a new word or word form; this word part modifies the word's meaning (e.g., *pre-*, *-ness*). A prefix is attached to the beginning of a word (e.g., *re-*, *un-*). A suffix is attached to the end of a word and sometimes changes the part of speech of a word (e.g., *-ing*, *-tion*). A root is a word part that cannot stand alone (e.g., the Greek and Latin roots *aud*, *bio*, *phon*). A base word is a word (free morpheme) that can stand alone (e.g., *like*, *sign*). Using structural analysis, we break down words into their common parts rather than trying to pronounce the sounds of each of the individual letters.

Strategies for Teaching Phonics

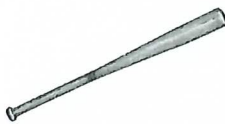
Numerous commercial phonics programs that follow a systematic sequence in teaching sounds and letters are available. Most students with dyslexia benefit from instruction in a synthetic phonics program, which begins with teaching single phonemes with the corresponding graphemes. (A phoneme is an individual speech sound [e.g., *cat* has three phonemes: /k/ /ă/ /t/]. A grapheme is the letter or letter combination that represents a single speech sound [e.g., the *l* in *lap*, the *tch* in *catch*].) The first step in most programs is engaging in activities that promote orthographic mapping (the process of assigning individual speech sounds to the letters that represent those sounds; this process bonds the spelling, pronunciation, and meaning of a specific word in memory and explains how children learn to read sight words). (See the Orthographic Mapping and

Sight Words section in this appendix for additional ideas.) One easy method to use with a student is a simple adaptation of the Elkonin procedure.

Elkonin Procedure

The Elkonin procedure (1973) was designed to help the student move from speech sounds to print. Once the student can do Step 3 with accuracy, move to Steps 4 and then 5.

1. Select a simple line drawing, such as a picture of a bat.
2. Under the drawing, place a rectangle that is divided into the same number of squares as there are phonemes in the word (three phonemes for the word *bat*).
3. Have the student say the word slowly and push a manipulative forward for each sound. A manipulative is an object such as a tile or a token that can be used to represent individual speech sounds or larger units of sounds (e.g., syllables). Color-code tokens for vowels (red) and consonants (blue).
4. Progress to letter tiles.
5. Once the student has mastered regular words, teach the student additional orthographic patterns, such as consonant blends (two or three consonants that keep their identities [e.g., *fl*, *sm*, *spl*, *str*]), digraphs (two letters that represent a single speech sound [e.g., the *ai* in *train* is a vowel digraph, also called a vowel team; and the *ph* in *phone* is a consonant digraph]), and alternative vowel spellings (e.g., *ai*, *ay*).



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Modified Orton-Gillingham Sequence for Phonics Instruction

Most phonics programs used with students with dyslexia are modifications of the Orton-Gillingham sequence (Gillingham & Stillman, 1960, 1997). You can follow this sequence, which moves from simple to more complex:

1. Show a letter and ask the student to repeat the letter name.
2. Demonstrate how to form the letter and have the student trace over the model, then copy the letter, and finally write the letter from memory.
3. Present each phonic unit on individual cards with consonant letters on white cards and vowel letters on salmon-colored cards. Introduce each sound with a key word. Have the student repeat the key word before providing the sound (e.g., *a* ... *apple* ... /ă/).
4. Teach the student letter sounds in groups as rapidly as they can be learned. The first letters are *a* (short *a* sound [ă/] as in *cat*), *b*, *f*, *h*, *j*, *k*, *m*, *p*, and *t*.
5. After the names and sounds are learned, introduce blending (merging together sounds or parts of words to create spoken words). Present a consonant, a vowel, and a consonant and have the student provide the sounds rapidly until the whole word is produced.
6. Pronounce a word slowly and separate the sounds. Ask the student to repeat the word, write the word while saying each letter sound, and then read back the word.
7. Once mastery is assured, introduce additional sounds. The Orton-Gillingham manual provides the following sequence: *g* (*go*), *o*, initial *r* and *l*, *n*, voiced *th* (*this*), *u*, *ch*, *e*, *s*, *sh*, *d*, *w*, *wh*, *y*, *v*, and *z*.
8. Introduce consonant blends and then the following sounds: *qu*, *x*, and *ph*.
9. Introduce the long sounds of all vowels and the vowel-consonant-final-*e* (VCe) spelling pattern (e.g., *a-e*, *safe*).
10. Have the student practice reading material that has a controlled vocabulary (decodable text) to practice applying this alphabetic approach to words.

Decodable Text

When you are teaching students with dyslexia how to read, phonics instruction is supplemented with reading in decodable texts (reading material that includes words with regular sound–symbol correspondences and that is used to practice the application of common phonic elements). Gradually, a few high-frequency words (e.g., *the*, *of*) are introduced. Many series of decodable books are available depending on the age of the student. Before having the student read, analyze the scope and sequence to make sure they have mastered the phonic elements that are used. Decodable text provides a way for the student to practice applying their phonics knowledge.

Strategies for Teaching Structural Analysis

You may use several simple strategies to help a student apply structural analysis (the ways in which a reader breaks apart longer words to make them easier to pronounce [e.g., separates the syllables or meaningful units within words]) to increase accuracy in pronouncing multisyllabic words. Structural analysis can also help a student expand their knowledge of vocabulary by unlocking the meanings of the individual morphemes within a word. In a language, a morpheme is the smallest linguistic unit that has meaning (e.g., *dislike* has two morphemes: *dis-* and *like*; *-ed*, *-ing*, and *-er* are also morphemes).

Morphology

Systematic instruction in morphology (the study of word-forming elements in a language and how they are combined to form words) can help the student learn how to break a word into meaningful parts. Teach the student about affixes and how they alter the meanings of words. Have the student practice pronouncing common affixes in isolation and discuss the meanings of the affixes. Explain that these common affixes are often attached to a root or to a base word. For example, place the root *rupt* in the middle of a graphic organizer and then add affixes to build words (e.g., *erupt*, *disrupt*, *interrupt*, *rupture*). As another example, place the base word *friend* in the middle circle of a graphic organizer and add on circles with derivations (e.g., *friendly*, *friendship*, *unfriendly*). Explain how the addition of these affixes changes a word's meaning. You can also place an affix in the middle circle and then have the student think of words that share this word part.

REWARDS Reading Intervention

The REWARDS Reading Intervention, a systematic program for improving decoding, teaches students an easy-to-use strategy for pronouncing multisyllabic words (Archer et al., 2000). The student circles the prefix and the suffix and then underlines the vowel sound in the root or the base word. You can then draw scoops under each section and say: “What part? What part? What part? What word?” For example, for the word *prescription*, you would draw a scoop under each part as you and the student say the following:

You: “What part?”

The student: “*pre-*.”

You: “What part?”

The student: “*-scrip-*.”

You: “What part?”

The student: “*-tion-*.”

You: “What word?”

The student: “*prescription.*”

Before you practice with this procedure, make sure that the student recognizes and can pronounce common prefixes and suffixes.

Six Syllable Types

You may also teach the student about the six different syllable types in English. Knowing the syllable types will help the student know how to pronounce

the vowel sound in a word. The syllables are defined as follows:

1. Closed: One vowel is followed by a consonant; the vowel sound is short (e.g., *mug*).
2. Silent *-e*: There is a vowel, then a consonant, and then a silent *-e*; the vowel is long, and the *e* is silent (e.g., *bake*).
3. Open: A long vowel is at the end of a syllable (e.g., *he*).
4. Consonant *-le*: A consonant is followed by the letters *-le* at the end of the word; this sounds like /ul/ (e.g., *turtle*).
5. *R* controlled: When a vowel is paired with the letter *r*, it has a different sound (e.g., *barnyard*); this is sometimes called a “bossy *r*.”
6. Vowel team (also called a vowel digraph): Two vowels represent a single speech sound; e.g., the *ai* in *train* (e.g., *team*).

If working with first-grade students, you may just want to teach the closed syllable and the silent *-e* syllable. If you are teaching all six syllable types, once one type is mastered, proceed to the next type. As you introduce each new syllable type, provide practice differentiating among the syllable types. Provide the student with various activities, such as sorting words into their syllable types and practice with reading words that combine two different syllable types (e.g., *pro-* [open], *-vide* [silent *-e*]; *can-* [closed], *-dle* [consonant *-le*]).