



Each series will be curated by a Vermont expert on the subject, with editing support from Dorinne Dorfman, Ed. S., Ed. D., and The Reading League Vermont. If you are interested in writing an article, please contact Dr. Dorfman at dorinnedorfman@gmail.com.

The three-part series features:

1. **Phonemic awareness** in September - November 2024, with lead editor Cara Arduengo, MS, CCC-SLP, M. Ed.
2. **Phoneme-grapheme mapping** in December 2024 - March 2025, with lead editor Kathryn Grace, M. Ed, CAGS
3. **Orthography and morphology** in April - June 2025, with lead editor Peggy Price, M. Ed., Fellow/OGA

During the 2025-26 school year, we will continue with the themes of **fluency, vocabulary, and comprehension.**

We look forward to sharing the teaching expertise of your colleagues across Vermont and moving toward the goal of reading equity!

Curious Question: What are good **rimes** for **teaching onset-rime blending**? (Check the last page for the answer!)

The Development of Phonemic Awareness: How to Match Instruction to Students' Learning Needs

By Emily Detzer, M.S. Ed. CCC-SLP

In this article, you will:

- Understand syllable structures
- Learn how to teach the key components of phonemic awareness (PA) instruction in a developmental progression
- Understand how to select appropriate intervention targets for PA
- Consider the learning needs of students who are English Learners and/or have speech-language disabilities based on PA assessments

*Test your PA skills by counting the phonemes (speech sounds) in the following words:
(Check the bottom of the page for the answers.)*

best ___

ball ___

chirp ___

box ___

quick ___

use ___

Answers: best 4, ball 3, chirp 3, box 4, quick 4, use 3

Syllable Structures

Learning the terminology for how to talk about phonemes (speech sounds) in words can help educators select appropriate words for PA instruction. The syllable structure of a spoken word is organized around the vowel sound. While some vowel sounds represented by exactly one letter, such as **stop** (/ɒ/ is **o**) and **pen** (/ɛ/ is **e**), many include more letters, such as **bread** (/ɛ/ is **ea**) and **night** (/ɪ/ is **igh**). Thus it is helpful when teachers refer to the vowel sound in a word and not the vowel. We categorize spoken syllables as simple or complex and use the symbols **C** for consonant sounds and **V** for vowel sounds (Moats, 2020).

Remember, we are thinking about the sounds in the words and not the letters. Even words with many letters can still have a single syllable structure (such as in **script**, **strengths**, and **blouse**).

Simple syllables have a vowel that may be preceded and/or followed by a single consonant sound, like **oh** (V), **tea** (CV), or **mouse** (CVC) with no consonant blends. Complex syllables have a vowel sound that is preceded and/or followed by at least one consonant blend, like **skin** (CCVC), **spry** (CCCV), or **tenths** (CVCCC) (Moats, 2020). It is more challenging to perceive individual consonant sounds within consonant clusters because the duration of the consonant pronunciation is often shorter within a cluster (Moats, 2020).

Knowing the developmental progression of phonemic awareness skills from simple to complex syllables can help teachers select words for instruction as well as understand why students may have challenges reading and spelling more phonologically complex words.

Letters should be incorporated to the extent that it is appropriate for the child's knowledge of sound-symbol correspondences. For example, words with long vowel sounds often have more complex spelling patterns than regularly spelled words with short vowel sounds. For students in kindergarten, teach segmenting and blending using letters for most regularly spelled words with short vowel sounds, but use tiles or blocks to teach segmenting and blending words with patterns that haven't been introduced yet, such as long vowel sounds. The advantage of phonemic awareness instruction is that students can be introduced to all of the speech sounds before they receive instruction in the letter-sound correspondences. Further, teachers can teach graphemes (letters and letter combinations) to students as part of phonemic awareness lessons. This is teaching phoneme-grapheme mapping (phonics instruction), which is critical to skilled reading development.

TEACHING READING IN BRIEF: DEVELOPING PHONEMIC AWARENESS

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It is important to keep in mind that students with phonological difficulties may continue to struggle with phonemic tasks even after mastering complex spelling, especially welded sounds and consonant blends, such as words like *than*, *tram*, *bring*, *song*, *junk*, *crank*, and *blink*.

The chart below shows how phonemic awareness skills develop during the early elementary years. These skills can be introduced and taught before the age of typical acquisition. Teachers are recommended to instruct students to write the graphemes representing the phonemes as early as possible.

Ages When 80-90% of Typical Students have *Achieved* a Phonemic Awareness Skill

Note: The examples below are for oral PA activities, including words that students have yet to learn to decode or encode, such as in this substitution task: "Change the /d/ in *led* to /j/ (" *ledge*).

Key

simple syllable structure words
complex syllable structure words

C: consonant sound

V: vowel sound

Age	PA Task	Instruction
6 years old	Blending of 2 and 3 phonemes CV, VC, CVC	"What word do these sounds make?" /n/-/ō/ <i>no</i> /ī/ /s/ <i>ice</i>

Age	PA Task	Instruction
6 years old	<p>Phoneme segmentation of words that have simple syllables with two or three phonemes (no blends)</p> <p>CV, VC, CVC</p>	<p>What sounds do you hear in these words?"</p> <p>Sheep /sh/ /ē/ /p/</p> <p>My /m/ /ī/</p>
6.5 years old	<p>Phoneme segmentation of words that have up to three or four phonemes (include blends)</p> <p>CCV, VCC, CCVC, CVCC</p>	<p>"What sounds do you hear in these words?"</p> <p>Try /t/ /r/ /ī/</p> <p>Ask /ă/ /s/ /k/</p> <p>Stop /s/ /t/ /ō/ /p/</p> <p>Best /b/ /ě/ /s/ /t/</p>
6.5 years old	<p>Phoneme substitution to build new words that have simple syllables (no blends)</p> <p>CV, VC, CVC</p>	<p>"Change the /ā/ in cape to /ē/."</p> <p>"Change the /t/ in tap to /m/."</p>
7 years old	<p>Sound deletion (initial and final positions)</p> <p>CV, VC, CVC</p>	<p>"Say eight. Say it again without the /t/."</p> <p>"Say feet. Say it again without the /f/."</p> <p>"Say time. Say it again without the /m/."</p>

Age	PA Task	Instruction
8 years old	Sound deletion (initial position, include blends) CCVC	“Say black . Say it again without the /b/.”
9 years old	Sound deletion (medial and final blend positions). Medial means closest to the vowel. CCV, VCC, CVCC, CCVC, CCVCC	“Say stomp . Say it again without the /m/.” “Say pry . Say it again without the /r/.”

(Moats & Tolman, 2024)

What does phonemic awareness instruction look like?

Phonemic awareness (PA) instruction should follow a developmental progression from simple to more complex tasks. Phonemic awareness instruction is more effective when 1 or 2 skills are taught at a time, as compared to teaching multiple skills simultaneously (National Reading Panel, 2000).

- Teach blending and segmenting before phoneme deletion and substitution (Gonzalez-Frey & Ehri, 2021; Moats & Tolman, 2024; Scheule & Boudreau, 2008).
- Start with teaching phonemic awareness with continuant consonant sounds (e.g., /m/, /n/, /s/, /f/, /sh/) before stop consonant sounds (e.g., /p/, /b/, /t/, /d/, /k/, /g/) (Henbest, 2017; Scheule & Boudreau, 2008).
- When considering which materials to use for phonemic awareness tasks, ask yourself, “Does my student know the phonics pattern of this word?”
 - No – teach the PA skill using colored tiles, blocks
 - Yes – teach the PA skill using letter tiles

Example Words for Teaching Continuant or Stop Sounds

Words with Continuant Sounds

2 sounds: *ice, zoo, off, moo, neigh, say, me, knee, shoe*

3 sounds: *mess, mouse, rose, leash, shell, fish, moose, mom, nose, sun*

Words with Stop Sounds

2 sounds: *tea, bow, key, egg, boo, pie, two, bee*

3 sounds: *cat, dog, book, bat, beach, chick, cup, pot, cake, pop, bike, bed*

- Start with teaching phonemic awareness skills using simple syllables (e.g., CV, VC, CVC). Once mastery is achieved, move to complex syllables (e.g., CCVC, CCV, CVCC, CCVCC) (Henbest, 2017) (Scheule & Boudreau, 2008). Remember that C and V represent speech sounds, not letters (i.e., a single C can represent single consonants (*b*), digraphs (*wh*, *sh*), and trigraphs (*tch*, *dge*).
- Teach beginning blends (e.g. CCVC, e.g., glad) before introducing ending blends (CVCC, e.g., desk) (Moats & Tolman, 2024; Scheule & Boudreau, 2008).
- Provide (1) explicit modeling, (2) guided practice, and then (3) independent practice, following the instructional method, “I do, we do, you do” (Scheule & Boudreau, 2008).

PA Tasks: Easier → Harder

Blending

Listen. What’s my word?



/m/ /ē/

“me”

Segmenting

Say the word. Count the sounds.



/f/ /i/ /sh/

Blending

Listen. What’s my word?

/s/ /m/ /ō/ /k/

“smoke”

Segmenting

Say the word. Count the sounds.



“best”

/b/ /ĕ/ /s/ /t/

Deleting

Say “clamp.” Now say it without the /l/.

“camp”

Substituting

Say “frame.” Change the /r/ to /l/.

“flame”

Teachers should carefully sequence skills. They should also highlight and model critical concepts and provide sufficient practice opportunities (Scheule & Boudreau, 2008). Repeated practice with multiple examples will help students develop proficiency. Good PA instruction helps students understand letter-sound correspondences within increasingly complex words, such as digraphs or trigraphs (e.g., **ch**, **igh**), because they become aware of each individual speech sound and can map the sounds they *hear* onto the letters they *see*.

Spoken words can be difficult for students to remember, especially those with disabilities. Tokens like blocks and blank tiles can be used to represent speech sounds. A concrete representation of each speech sound can help students hold the sound in their working memory (Ashby et al., 2024). Pictures of the target words can also be provided to help students remember the spoken word. As stated above, once students have enough knowledge of the letters and their sounds, letters should be combined with PA instruction.

Segmenting can be taught with simple and complex syllable words using easy-to-prepare materials: pictures of the target words, arrows pointing left, and tokens or letter tiles. The teacher selects a list of target words that is appropriate for the phonemic awareness level of their students and begins:

1. The teacher models the task by saying the word, followed by segmenting each sound in the word while moving each tile.
2. The teacher and the student(s) repeat these two steps as guided practice together.
3. The teacher asks the student(s) to segment on their own while touching each tile representing the phoneme.

Say It and Move It

“boat” and “ship”
simple syllables, 3 sounds



The picture of the spoken word helps ALL students remember the word. Students can also do independent practice if given pictures.

The arrow reminds students to segment from left to right, just like reading and spelling.

The tokens (or buttons, tiles, disks, blocks) support segmenting via 1:1 correspondence of token to speech sound.

Say It and Move It



"fast" and "quick" are both complex syllables with 4 sounds.

fast- CVCC
quick- CCVC



Use different colors for vowels and consonants to teach consonant blends.



Curricular sequences with word lists are great sources for target words, such as the [Intensive Phonological Awareness program](#), [Heggerty, Equipped for Reading Success](#), and [Road to the Code](#). Many word lists found on the internet are not generated by professionals who understand the sound structure of spoken words. For example, **box** is not a 3-phoneme word! Its sound structure is CVCC (x is /k//s/). But **dish** is a 3-sound, simple-syllable word, even though it has 4 letters. Teachers should not rely on Artificial Intelligence (AI) for choosing words, as online misinformation about PA may be included.

Word or sound chains are phoneme deletion, addition, and substitution tasks that can be performed with letters. The teacher can prepare a list of words that differ by one sound in varying word positions. The teacher can then model how to change the sounds in a word to form a new word. This activity can be done with letter tiles, a whiteboard and dry-erase marker, or paper and pencil.

Say **best**. What sounds do you hear? /b/, /e/, /s/, /t/. What do I write? **b, e, s, t**.

Now change the /b/ sound to /w/. (Erase or move the **b** tile). /w/, what do I write? **w**.

Read the word: **west**. Now take away the /s/. What letter do I move? The letter **s** (erases or moves the tile).

Now read the word: **wet**. Change the /t/ to /b/. (Erases or moves the letter **t**). /b/, what do I write? **b**.

Read the word: **web**.

Example of a word chain: **stamp, stomp, stop, top, tap, lap, flap, flip, clip, lip, lap, sap, sat, sit, hit, hot, hog, log, clog**

How should progress be measured?

There are many free tools available for assessing phonemic awareness skills. Phonemic awareness assessments should be administered to students individually. Assessment options include [DIBELS 8th edition - Phonemic Segmentation Fluency](#) (grades K-1), [The PAST Test](#) (grades PK-3+), Mather and Goldstein's [Phonological Awareness Skills Screener](#), (grades K-2), and [Heggerty Phonological Awareness Assessments](#) (grades preK-1, including Spanish). Teachers track students' PA progress to make decisions for instruction, possible remediation, and reporting. Student progress, especially for struggling readers, would be shared with families and others instructing them and placed in their cumulative files for future reference.

Act 139 calls for the Vermont Agency of Education to review and publish guidance on universal screening tools in phonemic awareness by January 2025. All students in kindergarten through 3rd grade are expected to receive a PA screening at least annually and in accordance with the technical specifications of the screeners.

What should be considered for students who are English Learners?

Students who are multilingual learners may face unique challenges with PA skills in English. Their home language may not have the same speech sounds or phonological rules as English. For example, students who speak Nepali may have challenges learning the following consonant sounds that are not in their home language: *f*, *h*, *j*, *r*, *v*, *z*, *ch*, *sh*, and *th*. Nepali-speaking students also may have difficulty articulating ending consonant blends (e.g., *-ct*, *-ft*, *-lt*, *-sp*), because most words in Nepali do not have ending blends (NELTA ELT Forum on August 5, 2017). Speech-language pathologists can help educators determine which speech sounds may not be present in a student's home language. Teachers will need to provide explicit teaching on English phonemes that are not present in the student's home language (Irujo, 2020).

What should be done when students have specific learning disabilities or speech-language impairments?

Children with speech-sound disorders are more likely to have challenges learning to read, especially if the speech-sound disorder persists into school age (Tambyraja, Farquarson, & Justice, 2023).

The school's speech-language pathologist can help determine how to best support students with a current or previous speech sound disorder who are demonstrating challenges in developing PA skills. They can also help provide support for assessment if needed. For example, if a student demonstrates the sound error pattern of gliding, they may incorrectly perceive and/or articulate words with /r/ and /l/. The student may have difficulty segmenting the consonant blends in **click** or **bread** or may confuse these words with **cwick** or **bwed**. The speech-language pathologist can provide specific cues to help the student perceive and produce these sounds during PA practice.

Additionally, speech-language pathologists can provide alternate assessment methods like receptive phonemic awareness tasks for students with a significant number of phoneme errors (Roepke, 2024). If a PA assessment task requires a spoken response, any errors must be checked in a nonverbal way such as pointing to a picture or grapheme to assess whether the student was thinking the correct sounds and just couldn't produce them. For example, the ROAR (Rapid Online Assessment of Reading, Gijbels et al., 2023) or ATLAS-PA (Access to Literacy Assessment System by Skibbe et al., 2020) receptively test blending, segmenting, and deleting of phonemes.

Children with language-based disabilities may also have challenges developing PA skills. These language-based learning challenges may not be revealed until a student is school-age. Classroom teachers may be the first to recognize that a student is not learning skills despite adequate instruction. Two language-based learning disabilities are dyslexia and developmental language disorder. In schools, children with these disabilities may be labeled as having a developmental delay, specific learning disability in reading, or language impairment. No matter which diagnostic label the child has, thorough assessments should determine intervention targets and what scaffolding children will need to learn to read (Adlof & Hogan, 2018). Your school psychologist, speech-language pathologist, and special educators can provide specific recommendations for students who are struggling with phonemic awareness. For example, if students are struggling to remember spoken English words, an SLP can recommend pictures to help jog their memory for their new, growing vocabulary. In addition, students struggling to segment words with 3 phonemes (**van, shell, myth**) may need additional instruction on segmenting words with 2 phonemes. This would begin with continuant sounds (**all, my, if**), and when the students reach mastery, introducing stop sounds (**add, tie, up**).

Finally, a group of students who are often overlooked in evidence-aligned reading instruction are those who use augmentative and alternative communication (AAC). There are teaching methodologies that are specifically designed for students with no or minimal verbal communication. Special educators can work with their speech-language pathologists to develop phonemic awareness instruction so that ALL students can learn to read. Light (2012) has extensive information about how to teach phonemic awareness skills to students who use AAC through receptive picture identification tasks. To learn initial phoneme identification, students are presented with pictures, given an initial sound, and asked to point to the picture that starts with the sound. To learn phoneme blending, students are presented with pictures, asked to listen to the sounds, and then point to the picture that matches.

Answer to this issue's Curious Question:

Kress and Fry (2016) identify the most common: -ab, -ack, -ag, -ail, -ain, -ake, -am, -an, -ank, -ap, -at, -ay, -ed, -ell, -est, -ew, -ick, -ight, -ill, -im, -in, -ine, -ink, -ing, -ip, -ob, -ock, -op, -ore, -ot, -out, -ow, -uck, -ug, -um, -unk, and -y (ī)

Kress, J. E. & Fry, E. B. (2016). *The Reading Teacher's Book of Lists*.
Jossey-Bass. P. 78

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Emily Detzer created all non-attributed graphics in this article.

Meet the Writers and Editors

Emily Detzer, M.S. Ed., CCC-SLP

Emily is a speech language pathologist at Edmunds Elementary School in Burlington. She completed her undergraduate and graduate degrees in Communication Sciences and Disorders at the College of Saint Rose. Emily has gone on to pursue specialized training in literacy, including Wilson Reading System Level 1 Certification and a Certificate of Advanced Study in Language and Literacy from the Mass General Brigham Institute of Health Professions. Emily has worked as an SLP in schools in Vermont, New York, and Virginia. Her professional interests include the relationship between spoken and written language, augmentative and alternative communication, and supporting multilingual learners with communication disorders. Emily is also passionate about professional advocacy and she is currently on the executive board of the Vermont Speech Language Hearing Association.



Dorinne Dorfman, Ed.S., Ed.D., OG/A

Dorinne Dorfman has served as a teacher and principal for nearly 30 years in Vermont schools. After completing her undergraduate studies at Goddard College, she earned her Master's and Doctorate in Educational Leadership at the University of Vermont. As a postdoctoral Fulbright Scholar, she taught at the Technical University of Berlin and conducted research on democratic education in Germany. Since completing an Education Specialist Degree in Reading and Literacy Instruction at Bay Path University, Dr. Dorfman teaches evidence-based literacy at Barre Town Middle School.



Cara Arduengo, M.S., M.Ed., CCC-SLP

Cara Arduengo loves collaborating with teachers in Vermont public schools. After earning her Bachelor of Arts at Middlebury College, she attended the Upper Valley Educators Institute and New England College and taught 7-12 English Language Arts. She graduated from the Massachusetts General Hospital - Institute of Health Professions where she pursued a certificate of advanced study in reading, recognized by the International Dyslexia Association. Her passion at work is analyzing the components and connections of written language. She is a speech-language pathologist (SLP) at The New School of Montpelier. Previously she worked at Barre Town Middle School and Milton Middle School. Cara also likes to tie in her other experiences as a tutor, violin teacher, and outdoor educator.



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Additional Resources

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