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THE SCIENCE OF LEARNING BLOG

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# Auditory Processing: What's Sound Got to Do, Got to Do with Reading?

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Have you ever had a student or child who needed classroom accommodations, such as additional time on tests or for teachers to speak more slowly? These modifications provide students with extra time to make sense of information, also known as processing time.

[Processing speed](#) is key to becoming a strong and fluent reader. What you might not know is just how important *auditory* processing is to reading

...ing...ment...j...ion...mp...ant...ary...processing...to...reading... skills. Even though reading is thought of as a visual mode of communication, it relies heavily on oral language skills.

So here's what you need to know about what sound has to do with reading. Read to the end to learn what you can do to help learners rev up their auditory processing and, as a result, make struggling learners into strong readers.

## What Is Auditory Processing?

Auditory processing is how the brain attaches meaning to the sounds that one hears. Auditory processing is a different process than hearing itself, which involves the physical mechanics of the ear. You might *hear* sounds at the right pitch and volume, but without auditory processing, they will sound like [Charlie Brown's teacher](#) going "wah wah wah" through a muffled horn.

Slow or fast auditory processing is not related to intelligence. The speed is simply a function of how efficiently the brain's neural connections send and receive signals. The good news is that efficient brain wiring can be trained. (More on that later!)

Chances are, kids who struggle with auditory processing also struggle with reading. Here's the role that auditory processing plays in reading.



## Why Is Sound Important to Reading?

To understand the role of sound and auditory processing in reading, let's outline some of the core components

of language and reading acquisition:

1. **Sound symbol recognition** is the ability to understand that letters have sounds associated with them.
2. **Phonological awareness** is the ability to parse a word into sounds, like knowing that the word *catch* has 3 sounds, /k/, /æ/, and /ch/, even though it has 5 letters.
3. **Phonics** is the process of mapping the letter (grapheme) to a sound (phoneme) and vice versa, such as attaching the letter *b* to the sound

/b/.

**4. Decoding** is the act of sounding out words using phonics.

([Source](#))

Notice that sound is key to all of these foundational reading skills. But what happens when a child struggles with auditory processing?

## Two Examples

Let's say that Billy struggles with [speech sound discrimination](#), meaning he can't tell the difference between the sound /b/ and the sound /d/. He will feel confused and frustrated when asked to map a sound onto the grapheme of *b*, and even more frazzled when he's asked to read the word *bed* aloud.

Or, consider Jesse, who struggles with processing speed. She has a hard time understanding what her teacher says because the sounds blend into each other. It's just like when you travel abroad to a country where you're excited to practice the language you've learned, but the natives seem to speak too quickly for you to keep up with them. That's because your [auditory map of the speech sounds in that language](#) is imprecise, so the sounds all seem to blend together. Jesse experiences this every day, and this difficulty with processing the rapid blending of sounds holds her back from developing phonological awareness.

For both Billy and Jesse, tripping up on these early stages of reading acquisition makes it that much more difficult to master more advanced skills, such as [fluency](#) and comprehension, which affect learning in all subject areas.

The domino effect of struggles with auditory processing can dramatically impact reading achievement. Some students may receive a diagnosis of [auditory processing disorder](#), while others may have underdeveloped auditory processing skills.

Fortunately, no matter the student's level, the right training can rewire and augment the experience-dependent brain's processing networks in just the way each learner needs.

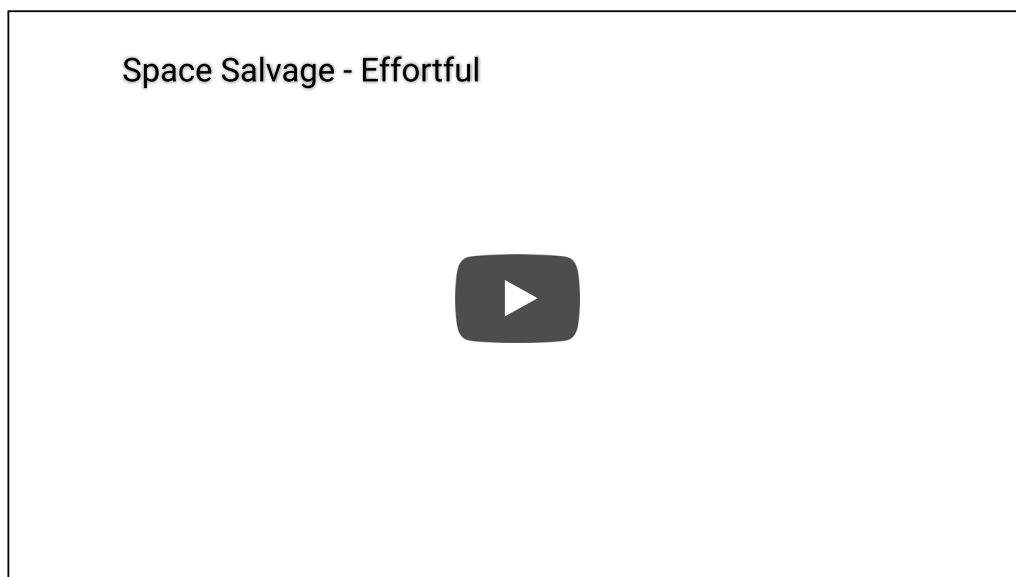
## Acoustically Modified Speech

How do you train the ear—or, more accurately, the brain—to process sound quickly and accurately so that reading becomes easier?

Slowing down the rate of speech and emphasizing specific sounds can be very beneficial for students who struggle with auditory processing, as well as language learners who are learning new sounds in their second (or third, or more) language. A decreased pace allows these students to develop accurate phonological representations while increasing comprehension.

If you've learned a new language, you've probably had a teacher slow down and enunciate. But for some students, that may not be enough. Even with slowed speech, sounds within words may still seem to blur. That's where technology comes in.

Acoustically modified speech is part of the patented technology that drives the Fast ForWord software. Here's an example of an exercise from the [Elements I series](#) that uses it:



Does the audio sound strange and garbled to you? That's what one mother said when she first heard it. But when her son, who had struggled with reading his whole life because of issues with auditory processing, heard it, he had a different response. His eyes lit up, and he asked his mother, "I can hear it so clearly. Why don't you talk like this?"

In fact, she probably couldn't. The acoustically modified speech technology can stretch out sounds that are physically impossible for human speakers to stretch on their own.

## Glasses for the Ears

Acoustically modified speech has been called "glasses for the ears."

However, the difference between these two types of glasses is that

eyeglasses don't repair your eyesight. When you take these glasses off, you return to blurry vision.

On the other hand, the “glasses for the ears,” that is, acoustically modified speech exercises, actually do strengthen the brain's ability to process sounds quickly and accurately.

The [Fast ForWord](#) software gradually speeds up the sound at rates personalized to students' progress. By the end of the program, your student or child will have caught up and mastered the reading skills that require fast and precise auditory processing. That makes all the other reading pieces line up more easily: phonics, decoding, fluency, and comprehension.

And, before you know it, you have a strong and confident reader and learner!

Now that you know what sound has to do with reading, pay attention to how your students or children are learning to read. If they are struggling, could their auditory processing or processing speed be a reason? If so, it may be time to get them glasses for the ears.

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Want to learn more about the [Fast ForWord](#) reading and language programs? [Request free samples](#).

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