

Sound Reading Solutions: The Science Behind our Reading Therapy



Sound Reading offers the essential compilation of research-based activities that are designed to build fundamental skills for reading naturally.

HISTORY OF SOUND READING

The company was founded in the late 1990's by Bruce Howlett. He was a former biochemical and molecular researcher for Cornell University who later went on to become a special education teacher.

Bruce combined his research background with teaching and at that same time began to work with a Speech and Language Pathologist to fully understand the science behind reading. The result was that Bruce was able to teach reading instruction in a revolutionary new way.

Working closely with the Speech and Language Pathologist, Bruce was able to apply the methods from the speech-language-hearing field into reading remediation.

Bruce then created a website to share his discoveries and was flooded with requests for additional information. These materials were given away freely until the costs of printing and shipping became a burden. This forced Bruce to charge for the materials, and thus Sound Reading was birthed.



How Sound Reading is Different:

Sound Reading uses a blend of techniques from speech pathology, special education and education physiology. **Sound Reading** works by focusing on the spoken word, not the written word. We enhance students' natural ability to speak and listen and then link these skills to printed words resulting in improved fluency and reading comprehension.

The Sound Reading Model:

The Sound Reading model is based on **print-to-speech processing**. This approach to literacy development focuses on the underlying speech, listening and language skills that support the complex process we call reading. Sound Reading teaches reading as a language process. It is not a series of activities that focus on printed content, but rather the instruction emphasizes developing the spoken language processes that proficient readers already possess.

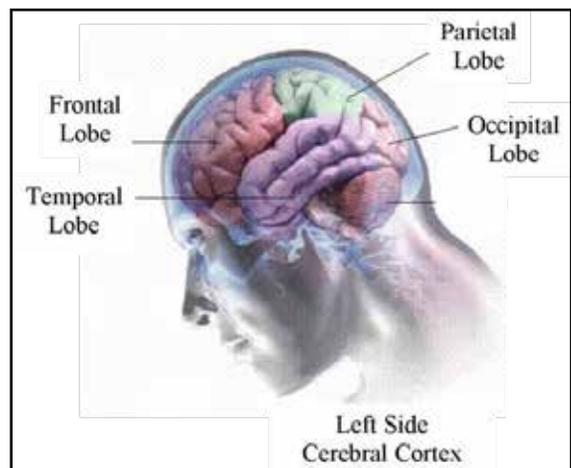
Print-to-speech instruction focuses on phonemic discrimination, word awareness, sound discrimination, flexibility and speech code perception *. This process is developed to the point where these skills are automatic, requiring minimal conscious effort.

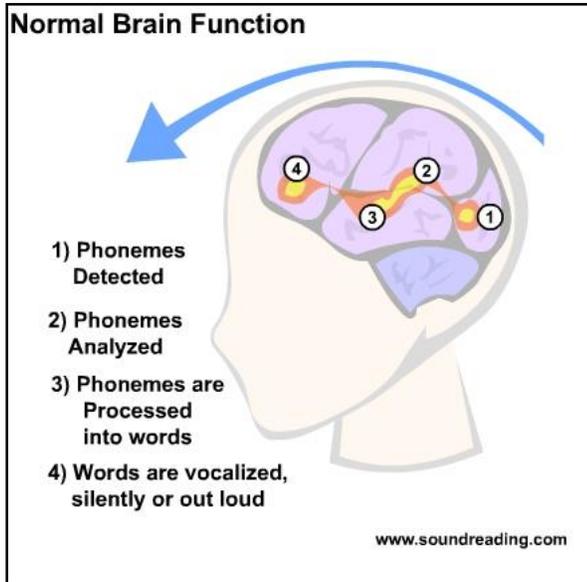
The focus on the development of spoken language perception, not the teaching of specific facts or skills, is what sets Sound Reading apart from other reading programs. We help students heighten spoken language processes, including memory, recall, auditory attention, and awareness.

* Speech Code Perception: Speech perception is the process by which the sounds of language are heard, interpreted and understood. The study of speech perception is closely linked to the fields of phonology and phonetics in linguistics and cognitive psychology and perception in psychology. Research in speech perception seeks to understand how human listeners recognize speech sounds and use this information to understand spoken language.

How The Brain Processes Print:

To understand why print is best processed as auditory rather than visual information, we must understand the workings of the human brain. What makes humans unique is the convoluted outer covering of our brain, called the cerebral cortex. The cortex is split into two sides, the left hemisphere and the right hemisphere. Both hemispheres are further divided into four lobes. Although the two hemispheres and the lobes look much the same, they function differently. The left hemisphere generally processes information in an analytical manner, making sense of bits of information by using logical rules. This includes written and spoken language, as well as math. The more holistic right hemisphere "sees" the whole picture. This part of the brain handles spatial and visual perception and imagery, it also helps us to recognize faces. For instance, in viewing a piece of art; the right hemisphere takes in the shapes, forms, tones, and mood of a painting whereas the left hemisphere helps us to attach words to the visual images we encounter.





Of course, the hemispheres do not operate in isolation. At any point in time, proficient readers use large areas of both hemispheres; in fact, a large bridge called the corpus callosum, a band of 250 million nerve fibers, connects the two hemispheres.

All four lobes of the left / language cortex are involved in the reading processes of decoding, fluency and comprehension. In the back of the brain, is in the occipital lobe, the center for much our sense of vision. This center's key visual task is to decide if a word is pronounceable in one's native language. Here, the brain is looking to see if it can say a word. If it is a pronounceable word then the information is sent to areas in the speech processing system which dominates the left half of our cerebral cortex. If the word does not look like you can say it in English, like the word

CZYTELNICZY (which means "reading" in Polish), the brain sends the information to the right cortex for general visual evaluation. The reader then looks for letter patterns. Finally, the patterns are sent back to the left side of the brain to try out possible pronunciations.

To summarize, the switching action of the occipital lobe is critical for reading success. The brain of a proficient reader directs print to the more efficient left / language cortex, which rapidly translates print into speech. However, struggling readers shunt print into the less effective right cortex, where the brain graphically labors over the spelling forms of words.

The Science of Reading:

Reading is a special type of listening process, about 98% auditory and 2% visual. When we read, our eyes act like a second set of ears.

Why is reading English such a chore for some, while others seem to pick it up with minimal effort?

Research shows that the majority of reading problems stem from simple auditory disconnects which prevent people from matching the correct sounds to printed words. This auditory disconnect is at the root of every roadblock experienced by struggling readers. Whether learning phonics, attempting to master short vowels and consonant blends to navigating through rules and exceptions, without the proper auditory processing skills in place, students will continue to struggle.

Unfortunately, auditory problems vary and are widespread. For example, something as minor as an ear infection during the second year of life, a lack of early language exposure, or a set of genes that don't code for a strong auditory system can result in a life-long struggle with reading. Leveled books and phonics instruction are the traditional methods for addressing reading difficulties. However, studies show that while those methods work well for improving reading fluency once auditory skills are intact, they do little to help the approximately 35% of the English speaking population who have fundamental auditory issues.

With its intense focus on letters and printed words, phonics is not the only solution to improving low literacy rates. According to the National Reading Panel the solution to auditory reading problems lies within the science of auditory therapy. Focusing on the auditory solution is why Sound Reading Solutions' proprietary auditory based reading therapy system has had such phenomenal success in classrooms around the United States and the world.

Sound Readings' unique methods are grounded in speech therapy, a growing field that has been correcting auditory difficulties for decades. Not just any auditory therapy will do. The key for struggling readers is making strong connections between spoken and written words. With over a decade of in-school field testing, our method has become a leader in speech therapy solutions. Results show that students using Sound Reading who had been struggling with phonics for years were able to meet and/or surpass their current reading grade level within a matter of months.

What is Auditory Processing?

The term *auditory processing* refers to how the brain perceives and interprets sound information. Several skills determine an individual's auditory processing ability or listening success. Auditory processing develops in a general four-step hierarchy, but all work together and are essential for daily listening.

| | |
|---|--|
| <p>Step 1: Auditory Awareness</p> <ul style="list-style-type: none"> • Auditory Awareness-the ability to detect sound • Sound Localization- the ability to locate the sound source • Auditory Attention/Auditory Figure-Ground- the ability to attend to important auditory information, including attending in the midst of competing background noise. | <p>Step 2: Auditory Discrimination</p> <ul style="list-style-type: none"> • Auditory Discrimination of Environmental Sounds- the ability to detect differences between sounds in the environment • Auditory Discrimination of Suprasegmentals- the ability to detect differences in non-phoneme aspects of speech including rate, intensity, duration, pitch and overall prosody • Auditory Discrimination of Segmentals-the ability to detect differences between specific speech sounds |
| <p>Step 3: Auditory Identification</p> <ul style="list-style-type: none"> • Auditory Identification (Auditory Association) the ability to attach meaning to sounds and speech • Auditory Feedback/Self-Monitoring- the ability to change speech production based on information you get from hearing yourself speak • Phonological Awareness (Auditory Analysis) the ability to identify, blend, segment, and manipulate oral language structure | <p>Step 4: Auditory Comprehension</p> <ul style="list-style-type: none"> • Auditory Comprehension-the ability to understand longer auditory messages, including engaging in conversation, following directions, and understanding stories • Auditory Closure-the ability to make sense of auditory messages when a piece of auditory information is missing; filling in the blanks • Auditory Memory- the ability to retain auditory information both immediately and after a delay • Linguistic Auditory Processing- the ability to interpret, retain, organize and manipulate spoken language for higher level learning and communication |

Why Sound Reading is Effective:

Sound Reading develops essential skills that makes a student a proficient reader, these skills include:

Decoding words

- Sound Reading approaches the decoding process as a complex phonemic process much like the way we decode the speech sounds of a phone conversation.

Reading with ease and fluency

- Sound Reading develops fluency as a complex naming, word retrieval and pronunciation process that is largely dependent on oral fluency.

Using listening comprehension skills to create meaning

- Sound Reading uses online auditory based software activities and teacher instructed exercises that help students significantly improve their listening comprehension skills.

Applying thinking skills to read more interactively

- Sound Reading lessons teaches students to be able to identify sound patterns, word patterns and develop critical thinking skills necessary for improving reading comprehension.

Sound Reading's Brain Friendly Teaching Style

Sound Reading uses a wide range of methods derived from speech therapy and cognitive learning theory, providing research-based instruction without scripted drills. These methods make **Sound Reading** very easy to teach and they produce maximum results in very little time.

Sound Reading's Brain friendly teaching methods include:

Reduced Error Learning: Material learned with few errors is memorized correctly. **Sound Reading** enhances memory by reducing incorrect responses, therefore it eliminates the self-reinforcement of errors. Instead of struggling, your student will find **Sound Reading** quite easy.

Distributed Instruction: Sometimes called spiral instruction, spreads out learning tasks. As a result students master material indefinitely rather than temporarily.

Overlearning/Automaticity: Recent research shows that mastery learning may only lead to short and intermediate learning. For long-term learning, students need continued practice beyond the mastery stages, better known as overlearning. The deepest reading comprehension occurs when students are reading automatically. **Sound Reading Solutions** provides practice until it is "too easy," much like re-reading a favorite story.

Auditory Interaction: Reading is a receptive (listening) language process. **Sound Reading Solutions** is intensely auditory, heightening the language processes that are the key to literacy.

Independent Instructional Level: Many students will find **Sound Reading** "too easy". The program will be difficult for only the most challenged readers. **Sound Reading** is designed at an independent instructional level, where the student is poised to be highly successful.

Sound Reading's Clear Code Method™ combines auditory discrimination, sequencing and processing therapy with phonemic awareness and phoneme manipulation. On top of this solid foundation we introduce letters and meaningful words. Our clear code method is also highly effective with older students who need deeper phonemic awareness to decipher complex words.

What to Expect from Sound Reading:

Our system is easy to use and the pace is driven by the user through a computer interface. By dedicating 20 – 30 minutes every day students will attain marked results* within 2-3 months of use. The program doesn't require a specialist to administer (although it is recommended for some special needs cases), and it is equally efficient at teaching reading to those with or without auditory disorders. Our user-friendly interface and general applicability is why we have been able to successfully distribute our product to classroom teachers, speech therapists, paraprofessionals, parents, and volunteers in urban, rural and suburban settings. Whether working independently in the comfort of your home, or sitting with peers in the classroom, Sound Reading is equally effective in any learning environment.

* On average students show at least a 1-2 reading grade level improvement upon completion.

Sound Reading methodologies build a solid foundation ensuring that all students read well. Our programs heighten speech and language abilities by focusing on phonemic awareness and sound discrimination skills making Sound Reading the bridge that links listening to reading.

Approach reading with a new perspective, let Sound Reading help teach your students the skills they need to read with ease and confidence.

Call our office to get started at 1.800.801.1954 or email us at info@soundreading.com.

We look forward to helping your students learn to read in a sound way.



Literacy Volunteers Achieve Impressive Gains

After only two hours of training with Sound Reading, **volunteers** improved struggling readers' reading comprehension more than one grade level. The students, 2nd and 3rd graders, saw results as dramatic as 2 grade levels of improvement in only 15 lessons.

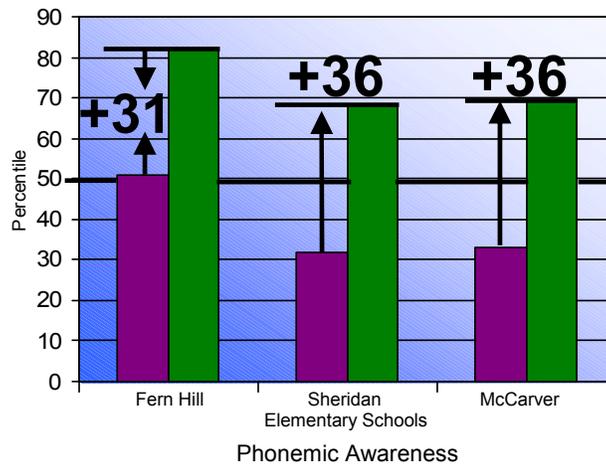
Benefits Achieved:

- The **easy to teach** program was taught by non-educator volunteers with only two hours of training.
- **Immediate, measurable results** were observed, with a whole year of improvement after only 15 lessons.
- Students **caught up to their peers** across the country, moving well above the national average.

Students that were once struggling are now high, strong performing readers. Nearly all the students in all three schools were below average at the start of the program. After the program practically every student not only rose above average, but improved close to or above the 70% percentile.



Students Exceed the National Average



Success In Three Elementary Schools

Students surge to above average scores in phonemic awareness through the Communities in Schools volunteer literacy program. Phonemic awareness is one of the strongest indicators of reading ability and measures the student's ability to distinguish different sounds within a word. Students that have higher levels of phonemic awareness continue to grow as readers and develop into stronger readers later in life.

“ Our teachers advocate for it. They call parents and suggest their children work with the program after school. **We love it!** ”
 -Teresa, Communities In Schools

Customer Information:

Communities in Schools, Tacoma, WA
 Fern Hill, Sheridan, and McCarver Elementary Schools
 Grades 2-3—Elementary School

Innovative Instruction
 Exceptional Results™



www.SoundReading.com
 800-801-1954



Classroom Success Report

Middle School

Special Ed Students Increase 1.5 Grades

Five classrooms at Carter G. Woodson Middle School used Sound Reading Remedy software with dramatic improvement. Teachers used the program as a supplement to their existing reading programs and the students adapted to the program quickly, mastering basic reading skills as early as five weeks after beginning the program.

Benefits Achieved:

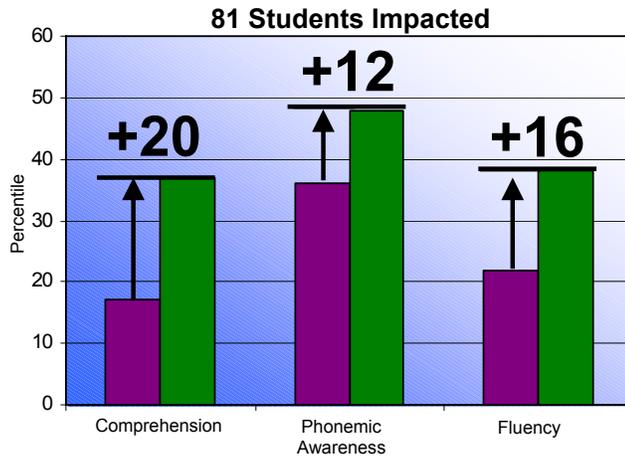
- **Reading comprehension increased 20%** on average among the students.
- **Overall fluency increased** with the average percentile rank rising 16%, bringing students much closer to average.
- **Of those below grade level, 16 students increased above the national average** in fluency out of 60 students.

Sound Reading proved to work effectively in both small and large classrooms. Teachers were thrilled with how easy it was to teach. Most impressively, the students in the larger inclusion class were able to improve close to the national average.



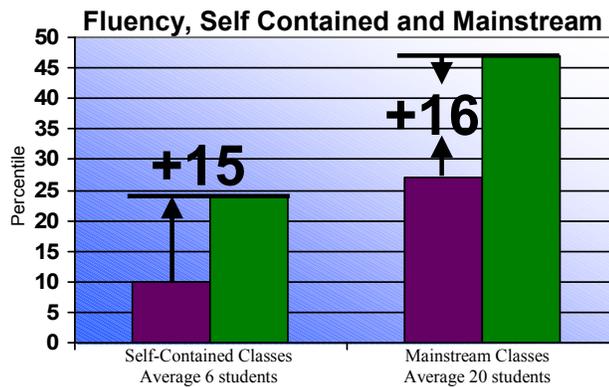
Students are **engaged and feel a sense of accomplishment** using the program. They look forward to their time with Sound Reading.

-6th Grade Teacher



Student Scores Increase Dramatically

Students' reading comprehension, phonemic awareness and fluency improved dramatically. Those who were once far behind their peers are now nearly caught up in only a short time by using this program.



Students improve 15, 16%

The program works in both mainstream and self-contained class settings with similar results. The students, regardless of class size, were able to work with the program and an instructor to show remarkable improvement in their reading ability.

Customer Information:

Carter G. Woodson Middle School, Hopewell, VA
 Grades 6-9 - Middle School
 Special Education and Inclusion Classes
 68 6th Graders, nine 7th graders, three 8th graders, one 9th grader

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Classroom Success Report

High School

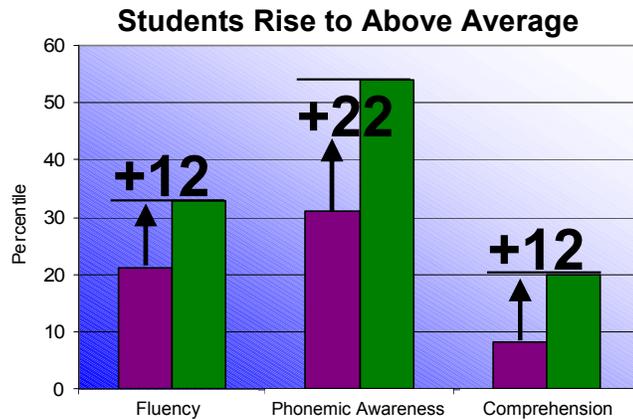
Dramatic Improvement in 6 Weeks

Special Education students at Gaithersburg High School in Maryland improved their reading abilities only 6 weeks after starting Sound Reading Solutions. Students had been using Read180 in their remedial reading class and had shown little to no progress. A teacher new to teaching reading began using the Sound Reading program with the class. Immediately, students were engaged and eager to learn to read.

Benefits Achieved:

- Sound Reading **worked quickly**, with measurable results in only 6 weeks.
- Teachers were delighted by how **easy to use** the program was.
- The program **sparked an interest in reading** in the students that had never been there before.
- Students quickly **rose to above average** in phonemic awareness from far below average.

In almost no time, these students moved from far below average to close to or above average. Students' phonemic awareness scores quickly rose from well below average to above average, giving them foundational skills that they can use to continue to improve their reading.



Phonemic Awareness up 22%

Student percentile rank increased in each of the three categories, with phonemic awareness increasing the most up to 53%. One student even increased from the 3rd percentile to the 99th percentile meaning he went from reading better than 3% of his peers to better than 99%. Phonemic awareness measures a student's ability to tell sounds apart from one another and is one of the strongest indicators of reading ability. These students rose from well below average to above average in only six weeks.



The Sound Reading program is truly a **highly effective program** that produces real results in short span of time. I am astounded by the growth of my special ed high school students. **Every school system should use this program.**

-Don Dillingham, Special Ed teacher



Customer Information:

Gaithersburg Senior High School, Gaithersburg, MD
 Grades 9-12 - High School
 Remedial Reading

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 Exceptional Results™

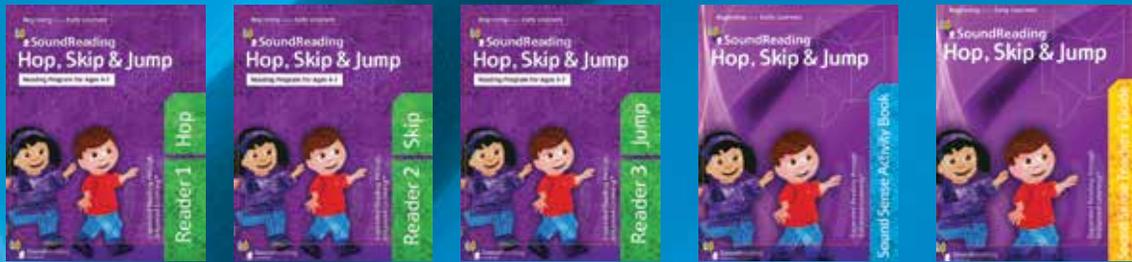


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SCOPE AND SEQUENCE

| Activity | Type | HSJ | Boost | Remedy | ESL |
|--------------------------------|--------------------------------|---------------------|-------|--------|-----|
| Auditory Discrimination | Word and Picture Contrasts | | ● | ● | ● |
| | Whole Word Contrasts | ● | ● | | |
| | Sound Discrimination | ● | ● | ● | |
| | Word Discrimination | ● | ● | | |
| | Sound Contrast in Words | ● | ● | ● | ● |
| | Middle Vowel Discrimination | ● | ● | | |
| Phonemic Awareness | Letter Manipulation | | ● | ● | ● |
| | Phoneme Manipulation | | ● | ● | ● |
| | Blending | ● | ● | | |
| | Rhyme | ● | ● | | |
| | Short & Long Sounds | ● | ● | | |
| | Voiced & Unvoiced Sounds | ● | ● | | |
| | Sound Counting | ● | ● | | ● |
| | Vowels Make Mouth Move | | ● | | |
| | Vowel Flexibility | | ● | ● | |
| | Word and Sentence Construction | ● | ● | ● | ● |
| | Beginning and Ending Sounds | ● | ● | | |
| | Word Manipulation | ● | ● | ● | ● |
| | Word Reading Accuracy | One Sound Spellings | | ● | ● |
| One Spelling Sounds | | | ● | ● | ● |
| Syllable Construction | | | ● | ● | ● |
| Word Error Detection | | | ● | ● | ● |
| Sentence Error Detection | | | ● | ● | ● |
| Automaticity / Fluency | | Automatic Naming | ● | ● | ● |
| | Sentence Fluency | | | ● | ● |
| | Word Fluency | ● | | ● | ● |
| Comprehension | Sentences from Fragments | | ● | ● | ● |
| | Comparing Meaning | | | ● | ● |
| | Comprehension True or False | | | ● | ● |
| | Cause or Effect | | | ● | ● |
| | Fact or Feeling | | | ● | ● |
| | Concept Formation | | ● | ● | ● |
| | Active Sentence Reasoning | | ● | ● | |
| | Listening Comprehension | | ● | ● | ● |

We're proud of all our great reading products



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|---|---|--|---|--|
| Sound Reading Online HSJ Pre-K-Kindergarten & Kindergarten | Sound Reading Online BOOST 1 st & 2 nd Reading Grade Level | Sound Reading Online REMEDY 3 rd Reading Grade Level & Above | Sound Reading Online ESL-LEP (Basic – Limited English Proficiency) | Sound Reading Online ESL-ACCEL (Balkan English Ability) |
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