

# **Why the Science of Reading Policy May Not Work for Deaf and Hard of Hearing Students**

## **Introduction**

Science of Reading (SoR) laws and policies, enacted across multiple states, aim to improve literacy rates by aligning reading instruction with evidence-based practices from the disciplines of education, neuroscience, linguistics, and psychology. As of April 2024, 38 states and the District of Columbia have passed laws and policies related to evidence-based reading practices in schools. These laws cover a range of topics including instructional practices, instructional materials, coaching and professional development, teacher \*certifications, assessments, and interventions. While these laws and policies have been beneficial in many educational contexts, they are not universally applicable, particularly for Deaf and Hard of Hearing (DHH) students. This position paper argues that the current SoR laws are unsuitable for DHH students and advocates the need for tailored approaches using the evidence that exists for language and literacy development of DHH students to meet the unique strengths, challenges, and needs of this population.

## **Background on Science of Reading Laws**

The SoR laws mandate that schools implement reading instruction based on scientific research, emphasizing systematic and explicit instruction in phonemic awareness, phonics, fluency, vocabulary, and comprehension. These laws often include early literacy assessments, interventions, and training for teachers and literacy coaches to ensure that all students reach certain reading benchmarks by specific grade levels.

## **Unique Challenges for Deaf and Hard of Hearing Students**

DHH students face distinct challenges in language and literacy acquisition that differ significantly from their hearing peers:

Language Acquisition and Development: DHH students often have delayed access to a fully accessible language, which affects their ability to learn reading skills based on sounds. These language experiences also influence the availability—or lack—of opportunities to develop language and literacy skills through incidental learning. Strategies developed for English language learners (ELL) may not adequately compensate for the lack of access to language experienced by DHH students. Specialized approaches that provide visual input and are uniquely designed to address language delays resulting from limited access to auditory input must be implemented

Instructional Approaches: Many DHH students need access to a visual-spatial language such as American Sign Language (ASL). Traditional reading instruction methods, which prioritize audio based phonics, phonological awareness, and auditory processing, do not align with the visual learning modalities that are more effective for DHH students.

Assessment Inadequacies: The standardized assessments required by SoR laws often fail to account for the diverse language experiences of DHH students. These assessments are designed for hearing students and do not accurately assess language acquisition and literacy development for DHH students. As a result, standardized assessments often provide stakeholders with skewed and inaccurate data to make informed instructional decisions about DHH student's reading comprehension and literacy skills.

## **Arguments Against the Applicability of Science of Reading Laws to DHH Students**

**Visual Strategies for Literacy:** The SoR laws emphasize phonemic awareness as the key foundational skill for reading, which is based on the ability to hear and manipulate sounds. For DHH students, who primarily rely on Signed Languages focusing on phonics which emphasizes the relationship between letters and sounds in written language, is ineffective and may result in confusion. Visual learning strategies and bilingual strategies--such as decoding through fingerspelling and morphology, translanguaging, whole-word recognition and contextual learning--are some examples of instructional practices that align with the needs and the strengths of DHH students..

**Insufficient Teacher Training:** While SoR laws mandate teacher training in evidence-based reading instruction, this training is insufficient for educators working with DHH students. Teachers of DHH students require specialized training in both evidence-based literacy instruction designed for DHH students and the use of Sign Language, bilingual pedagogy, visual aids, and other alternative communication methods. Without training that focuses on the language experiences of DHH students, SoR-compliant instruction fails to meet the needs of these students.

**Inappropriate Interventions:** The interventions prescribed by SoR laws are designed for hearing students and do not adequately address the linguistic differences of DHH students. For example, audio-based phonemic interventions are unlikely to be effective for students who cannot access sound in the same way as their hearing peers. Specialized, evidence based supports designed for DHH students should be utilized for instruction.

**Limitations of Standardized Assessment:** Standardized tests mandated by SoR laws do not adequately address the full and complex accommodations necessary for DHH students' receptive and expressive language experiences, such as the use of ASL interpreters or visual aids. This lack of customization can lead to inaccurate assessments of a DHH student's reading abilities. When the computer-based assessments do have embedded accommodations, they are often applicable to a subset of all students. True accommodations are individualized to provide a more accurate demonstration of their abilities.

## **Recommendations**

**DHH-Centered Literacy Instruction:** Educational policies should support the development of literacy instruction methods that specifically address the strengths and needs of DHH students. These policies should rely on the DHH-specific evidence base in the disciplines of education, neuroscience, linguistics, and psychology. This includes an emphasis on fluency, vocabulary, and comprehension development through explicit instruction in a language rich environment.

**Specialized Teacher Training:** It is essential to provide teachers with training that equips them to effectively teach DHH students. This training should include strategies for teaching reading and writing through visual means, as well as the utilization of the IEP for including specially designed instruction with benchmarks for literacy development. **Modification of Assessments:** Assessments should be adapted to the expressive and receptive language experiences of DHH students. This could involve the use of Sign Language interpreters, visual prompts, or other accommodations that ensure assessments are fair, accurate, accessible, and aligned with the student's IEP or 504 plan. Further, these accommodations should be tailored to the individual strengths and needs of the student and their communication modality established in their IEP. Additionally, assessments need to be developed that accurately measure and reflect the literacy skills of DHH students.

Specialized Administrator and Coach Training: When schools and districts have teachers with knowledge of the unique and highly specialized needs of DHH students, they may be met with opposition by persons in positions of influence and authority who approve instruction from a set list of curricula and approaches in alignment with the SoR. It is imperative that these leaders are provided guidance in the specialized instructional approaches used with DHH students and evidenced-based practices to ensure they are implemented with fidelity.

Legislative Modification for DHH Students: States should consider creating modifications within SoR laws for DHH students. These modifications would allow for the use of alternative instructional methods, materials and assessments that are evidence-based and specific to the strengths and needs of this population.

Teacher Certification Requirements: Texas has already implemented an exemption process for Deaf teachers for “educator certification and competence examinations that have not been field-tested for appropriateness, reliability, and validity as applied to persons with hearing impairments.” (19 Tex. Admin. Code § 230.25 (2023)).

## **Conclusion**

While the Science of Reading practices have the potential to improve reading outcomes for many students, they are not universally suitable. For DHH students, the laws and policies created can be restrictive and ineffective due to the unique challenges these students face in acquiring language and literacy skills. It is crucial to develop and implement educational policies that are specifically tailored to the strengths of DHH students, ensuring that they, too, can achieve literacy success.