



Evidence-Based Literacy Interventions for Students who are Deaf/Hard of Hearing

Introduction

Reading in school is critically important for students who are deaf or hard of hearing (DHH) because they are not always afforded access to the necessary structure and/or communication skills for reading in their homes prior to enrolling in PK-12 programs. This translates into students who are DHH being significantly outperformed by their hearing peers in the area of literacy (Luckner et al., 2006; Marschark et al., 2009; Easterbrooks & Beal-Alvarez, 2012; van Staden, 2013). A 2002 study indicates nearly 60% of high school graduates who are DHH leave school reading at a 4th-grade level or below (Traxler, 2002 as cited in Ausbrooks-Rusher, Schimmel & Edwards, 2012). Additionally, students with severe to profound hearing loss score significantly lower on reading assessments than those with mild to moderate hearing loss (Schimmel, Edwards, and Prickett, 1999). The achievement gap between students who are D/HH and their nondisabled peers is evident in longitudinal analysis of Florida Department of Education standardized assessment scores in the area of English/Language Arts. The achievement gap between students who are D/HH and their nondisabled peers is evident in longitudinal analysis of Florida Department of Education standardized assessment scores in the area of English/Language Arts. The reasons for this phenomenon are as varied and intricate as the students themselves. They all point to one indisputable conclusion: the status quo is not working and a change to literacy instruction for students who are D/HH is needed.

Luckner et al. (2006), claimed that “without well-developed literacy skills, students cannot participate fully in classroom learning.” Each child, regardless of hearing, has the right to equal access to the classroom and all learning activities, in this case evidence-based literacy instruction. Teachers must be explicitly equipped with tools and strategies that are specific to teaching literacy to a child with hearing loss, or a child may not be provided equal access to the classroom or a free appropriate public education (FAPE). Students who are deaf/hard of hearing often need explicit and specially-designed instruction in reading. Identifying achievement gaps through assessments, prioritizing and designing intensive instruction and intervention through the goals and objectives, and determining related services and supplementary aids and services, while aligning service provision across the continuum of instructional environments is critical for students to close the academic and social gaps they may have.



Legal Guidance

The need for evidence-based literacy instruction is supported by both federal and state initiatives. Laws and statutes regarding this need apply to all students, including those who are deaf and hard of hearing, though the approaches are often highly specific due to the nature and severity of various hearing levels. The highly-specialized and unique needs that manifest with hearing-related disabilities must be adequately addressed to provide this low-incidence population with equitable access to literacy instruction.

National

The Elementary and Secondary Education Act (ESEA) as amended by the Every Student Succeeds Act (ESSA) “challenges state education agencies (SEAs) and local education agencies (LEAs) to improve student outcomes by addressing the student-, teacher-, and school-level factors that drive achievement gains.” ([Florida Center for Reading Research, n.d.](#)).

The ESSA “emphasizes the use of **evidence-based** [emphasis added] activities, strategies, and interventions” to drive educational achievement ([U.S. Department of Education, 2016](#)). The U.S. Department of Education (2016) has provided further guidance titled “[Using Evidence to Strengthen Education Investments](#)” on the term “evidence-based” and using evidence-based interventions, activities, and strategies as found in ESSA.

Florida

Florida statutes support highly-specialized, intensive reading instruction based on individual student need, and that the instruction must be “research-based reading instruction that has been proven to accelerate the progress of students exhibiting a reading deficiency.” ([Florida Statute 1011.62 \(9\)\(a\)](#))

Florida statutes also outline the need for school districts to assist schools and teachers with the implementation of explicit, systematic, and multisensory reading instruction and intervention strategies for students promoted with a good cause exemption, which research has shown to be successful in improving reading among students who have reading difficulties. ([Florida Statute 1008.25](#))

[Florida Statute 1001.215 \(8\)](#) says:

“[Districts] Work with the Florida Center for Reading Research to identify **scientifically researched and evidence-based reading instructional and intervention programs that incorporate explicit, systematic, and sequential approaches to teaching** [emphasis added] phonemic awareness, phonics, vocabulary, fluency, and text comprehension and incorporate decodable or phonetic text



RMTTC-D/HH

Resource Materials and Technology Center for the Deaf/Hard of Hearing

instructional strategies. Reading intervention includes evidence-based strategies frequently used to remediate reading deficiencies and includes, but is not limited to, individual instruction, multisensory approaches, tutoring, mentoring, or the use of technology that targets specific reading skills and abilities.”

The [Florida Center for Reading Research](#) outlines information on “ESSA Evidence-Based Interventions for School Improvement Guides” on their [webpage](#).

Rationale and Resources

In the consideration of evidence-based reading strategies or interventions specifically designed for students who are DHH, the empirical evidence is scarce. More research is needed on instructional methods specific to means of auditory access and communication modality. Also needed are more controlled studies on the effects of interventions, and more data on teaching to a student’s chosen communication modality. Until such a time that a robust body of research is available, it is vital that teachers use the programs that are research-proven for students who are DHH with fidelity from the contemporary research that is available.

According to [Florida’s MTSS Booklet states](#), one of the primary functions of district leadership is to ... ensure that district policies are supportive of, and not barriers to, the implementation of the response-to-intervention model...

The [What is “Special” about Special Education? MTSS document](#) can also help clarify any misconceptions.

To learn more about reading instruction specifically for students who are DHH consider taking the online course *Language Reading Connection for D/HH (LRC-D/HH)* and *DeafEd Express* in the [BEESS PD Portal](#).

The following are research-based interventions and curricula designed for the specific task of improving literacy for learners who are D/HH. The highly-specialized needs related to incomplete access to auditory information are key components of each of these programs.

- [CLAD Foundations for Literacy](#)
- [CLAD Fingerspelling Our Way to Reading](#)
- [CLAD Explicit Contextualized Vocabulary for D/HH](#)
- [Failure Free Reading Program with ASL Video Instruction](#)
- [Fairview Learning](#)
- [Reading Milestones](#)
- [See the Sounds Visual Phonics](#)
- [Teach Your Child to Read in 100 Easy Lessons with Visual Phonics](#)
- [ASL/English Bilingual Grammar Curriculum](#)
- [Bedrock - Sight Word Strategy](#)



Research-Based Literacy Interventions for Students who are Deaf/Hard of Hearing

Category 1 Evidence

[CLAD Foundations for Literacy](#) *OSEP Funded Research

Foundations for Literacy is a comprehensive Pre-K literacy program. It can be used in K-2nd grade as both a reading and language intervention. Taught via whole group, this curriculum teaches language through many shared play activities. It has lots of great activities for students to develop phonological and phonemic awareness for students who communicate via auditory/oral means. It may not be appropriate for teaching phonological and phonemic awareness to students who sign. “*Foundations for Literacy* is an early literacy intervention developed specifically for young children who are deaf and hard of hearing. Targeted learning objectives include vocabulary, narrative skills, alphabetic knowledge, phonological awareness, and reading decodable words and short connected text. Each lesson includes fun, age-appropriate, integrated activities; instruction is differentiated based on children’s speech perception and language abilities.”

[CLAD Fingerspelling Our Way to Reading](#) *OSEP Funded Research

The *Fingerspelling Our Way to Reading* materials have been developed for grades K-2. This supplementary intervention program addresses phonological and phonemic awareness for students who communicate via ASL. The lessons are only 25 minutes and can be taught individually or in whole group.

[CLAD Explicit Contextualized Vocabulary \(ECV\) - DHH](#) *OSEP Funded Research

Explicit Contextualized Vocabulary Instruction - DHH (ECV-DHH) is an approach to content area vocabulary instruction for use with young students who are Deaf and Hard of Hearing (DHH). The explicit and contextualized instructional strategies expose students to new words and give students practice using those words expressively. The website will help professionals better understand the purpose of each component of instruction, the steps needed to implement the components, and suggestions for planning their own units of instruction using ECV-DHH.



RMTC-D/HH

Resource Materials and Technology Center for the Deaf/Hard of Hearing

Failure Free Reading Program with ASL Video Instruction

“Failure Free Reading is an intervention/remedial program designed for the lowest performing (bottom 15 percent) readers in grades 1-12. The program can be taught by certified and non-certified individuals. It lends itself to use in a regular classroom, extended day program, resource room, pull-out program, or lab setting. Lessons are 45-60 minutes in length and can be taught in a one-to-one or small group format. The goal of the program is to improve sight vocabulary, fluency, and comprehension skills.”

It includes instructional materials via their online platform translate into ASL.

Guidance 2004

https://www.failurefreeonline.com/n/casestudies/Florida_Center_for_Reading_Research.pdf

Fairview Learning *OSEP Funded Research

Fairview Learning is a set of 5 high yield reading strategies that can be in conjunction with any district-adopted curriculum with students in grades K-12. At Tier 1, *Fairview* can be implemented with the whole class as you work on the grade-level materials. It can also be used as a Tier 2 or Tier 3 intervention when used to remediate skills in a very small group or individually using materials at the student's instructional level. The individual skills are meant to be taught concurrently, as they are embedded throughout the protocol.

- Adapted Dolch/Multiple meaning words
- Bridging (Reading for meaning)
- Word Study (Phonemic Awareness) – Biggest impact when used with students who have residual hearing that can access letter sounds.
- Reading Process (Comprehension and Fluency)
- Written Expressive English

Reading Milestones

Reading Milestones was developed for students who are Deaf/Hard of Hearing. It is a language-controlled program designed to take readers to approximately a fourth-grade reading level. Reading materials are designed to match students' language levels and progress in steps small enough to ensure their continued reading success. The series teaches phonemic awareness, phonics, vocabulary, comprehension, and fluency, and it includes continuous progress monitoring. The Reading Milestones program series is based on extensive research of children who are hearing and deaf/hard of hearing regarding their development of the English language and its relationship to learning to read.*

The research includes *Reading Bridge Series* (AKA Reading Mosaic), a program that has been discontinued.



RMTC-D/HH

Resource Materials and Technology Center for the Deaf/Hard of Hearing

Strategic and Interactive Writing Instruction SIWI

“SIWI is an approach to writing instruction that aims to be responsive to the varied language needs of deaf learners. SIWI draws upon evidence-based approaches to teaching writing such as strategy instruction in writing and collaborative, interactive writing. SIWI also contains elements that provide teachers with guidance on language instruction such as how to navigate between ASL and English when teaching developing bilinguals, or how to facilitate greater expressive language clarity and complexity among children with language delays. There is growing evidence to suggest SIWI has a positive impact on students’ expressive language, word identification, motivation, and writing outcomes at the word-, sentence-, and discourse-levels.”

Teach Your Child to Read in 100 Easy Lessons paired with Visual Phonics

Teach Your Child to Read in 100 Easy Lessons is a complete, step-by-step program that shows teachers how to simply and clearly teach their students to read using the DISTAR method. Twenty minutes a day is the standard for implementation, and within 100 teaching days, the students are expected to be reading on a solid second-grade reading level. It’s a scripted, easy-to-follow, and enjoyable way to help students to gain the essential skills of reading. [The University of North Florida](#) conducted research using this program with *Visual Phonics* with students who are D/HH in an auditory-oral program.

Visual Phonics

Visual Phonics is a “multisensory approach for reinforcing oral language development, speech articulation, literacy, and spelling skills for students who are bilingual or possess diverse learning needs. This strategy can be used with any district-adopted curriculum or intervention for students learning phonemic awareness, phonics, and decoding skills. Students who benefit most from this approach are those who are able to associate meaning with sound.



RMTC-D/HH

Resource Materials and Technology Center for the Deaf/Hard of Hearing

Category 2 Evidence

ASL/English Bilingual Grammar Curriculum

“The Bilingual Grammar Curriculum (BGC) is a developmental curriculum that is concept focused. Teachers of [students who are D/HH] support their metalinguistic ability to guide them in looking at grammar skills first in ASL and then applying what they have learned to English. In this way, the students are able to talk about what they already use -- the various components of a visual language.

The BGC uses a developmental approach and is therefore not a grade level guide. Since many DHH students come to school with incomplete language structures it is imperative that they have the same opportunity to understand the grammar of the language they will be using in terms of a developmental hierarchy. Thus, the BGC is applicable to any student regardless of their age because of its developmental, conceptual approach.”

Bedrock

“The Bedrock Literacy Curriculum was designed to support teachers of Deaf and hard of hearing children in building the foundations of literacy. Grounded in a commitment to sharing effective instructional strategies for children with varying language backgrounds, the Bedrock Literacy Curriculum recognizes the demand for applied, practical tools that teachers have always sought-- particularly for those students who require a visually based approach to literacy development.”

The Bedrock Sight Word Intervention was researched at one school with promising results.



RMTC-D/HH

Resource Materials and Technology Center for the Deaf/Hard of Hearing

References:

- Ausbrooks-Rusher, M., Schimmel, C., & Edwards, S. (2012). Utilizing Fairview as a bilingual response to intervention (RTI): Comprehensive curriculum review with supporting data. *Theory and Practice in Language Studies*, 2(7), 1317-1329.
- Easterbrooks, S. R., & Beal-Alvarez, J. (2012). States' reading outcomes of students who are D/deaf and hard of hearing. *American Annals of the Deaf*, 157(1), 27-40.
- Florida Center for Reading Research. (n.d.) *ESSA evidence-based interventions for school improvement guides*. Florida State University.
<https://www.fcrr.org/projects/essa-evidence-based-interventions-school-improvement-guides>
- Fla. Stat. § 1008.25.
- Fla. Stat. § 1001.215.
- Fla. Stat. § 1011.62.
- Luckner, J. L., Sebald, A. M., Cooney, J., Young, John, I., II, & Sheryl, G. M. (2006). An examination of the evidence-based literacy research in deaf education. *American Annals of the Deaf*, 150(5), 443-56.
- Marschark, M., Sapere, P., Convertino, C. M., Mayer, C., Wauters, L., & Sarchet, T. (2009). Are deaf students' reading challenges really about reading? *American Annals of the Deaf*, 154(4), 357-70.
- Schimmel, C. S., Edwards, S. G., & Prickett, H. T. (1999). Reading? Pah! (I got it). *American Annals of the Deaf*, 144(4), 298.
- Traxler, C.B. (2002). Measuring up to performance standards in reading and mathematics: Achievement of selected deaf and hard of hearing students in the national norming of the Ninth Edition Stanford Achievement Test. *Journal of Deaf Studies and Deaf Education*, 5, 337-348.
- U.S. Department of Education. (2016). *Non-regulatory guidance: Using evidence to strengthen education investments*. <https://www2.ed.gov/policy/elsec/leg/essa/guidanceuseseseinvestment.pdf>
- van Staden, A. (2013). An evaluation of an intervention using sign language and multi-sensory coding to support word learning and reading comprehension of deaf signing children, *Child Language Teaching and Therapy*, 29(3), 305-318.