

Readability of Online Early Intervention Materials for Spanish-speaking Families

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Introduction

Readability

- Health literacy is the ability for an individual to find, understand, and use health information (American Speech-Language-Hearing Association, n.d.).
- For children who are DHH, early intervention (EI) services are typically accessed through Part C (Individuals with Disabilities Education Act, 2004).
- Materials about early intervention tend to be difficult for the average person to read (Sax et al., 2019; Woodruff & Cienkowski, 2021).
- This creates a barrier to access (Woodruff-Gautherin & Cienkowski, 2023).

Spanish Speaking Community

- Spoken Spanish is the most common non-English language in the United States (Dietrich & Hernandez, 2022a; 2022b).
- Previous works about readability in written Spanish have found materials, across various medical fields including those adjacent to children who are DHH, are written at a level above federally recommended guidelines (Coco, Corlina, Atcherson, & Marrone, 2017; Miguéns-Vila, Ledesma-Ludi, Rodríguez-Lozano, Varela-Centelles, Seoane-Romero, 2018; U.S. Department of Health and Human Services, n.d.; Weiss, 2006).
- EHDI specific materials have not, until now, been explicitly evaluated for readability in written Spanish.**

Purpose

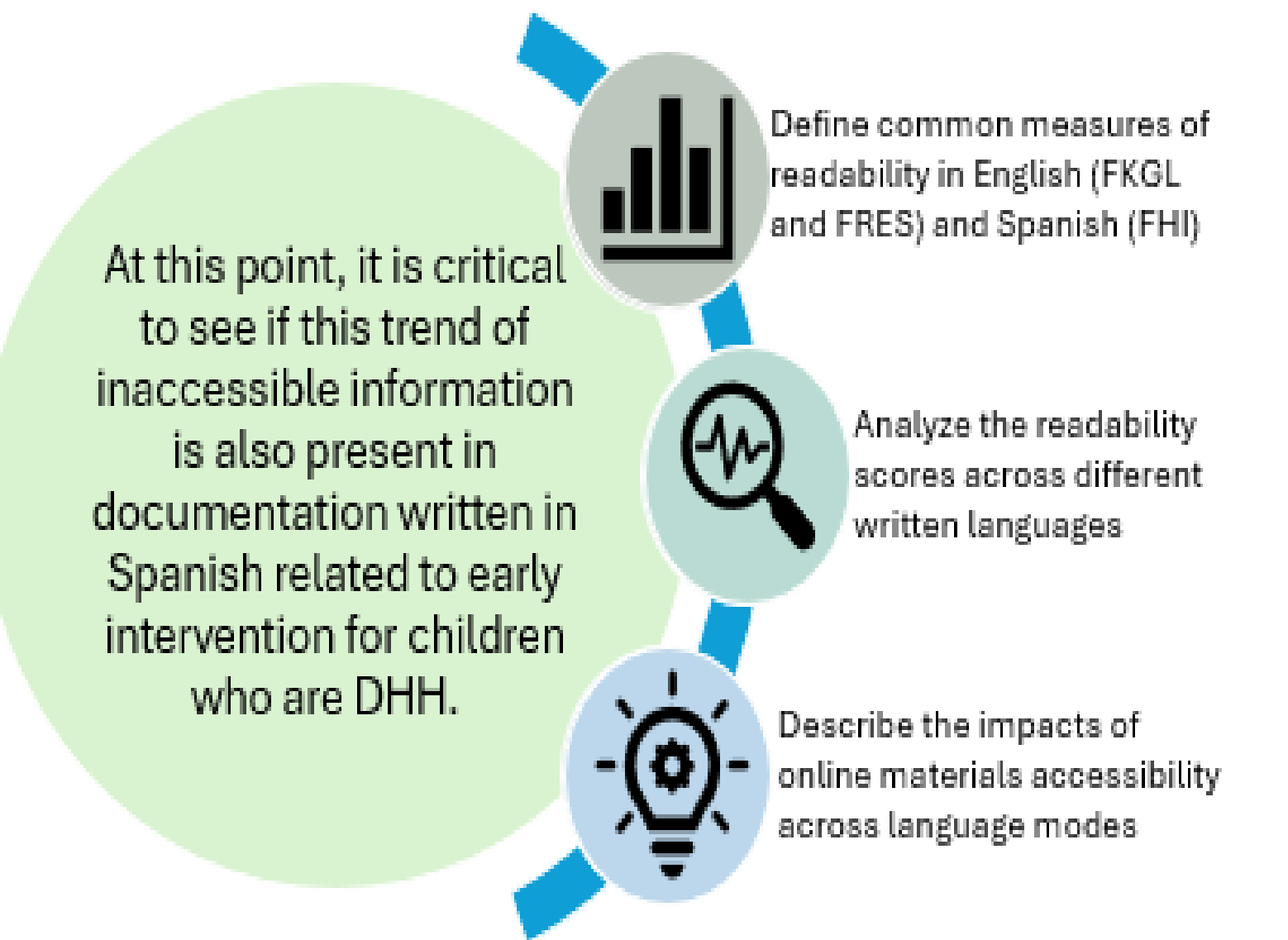


Figure 1. Purpose of this project.

Acknowledgements
This poster benefited from the help of Ashely Cortes who served as the bilingual research assistant who supported the development of search terms and the review of the Spanish language materials.
Dr. Kathleen Cienkowski continues to be a vital support and trusted colleague on this and other related work.
The idea from this poster came out of the work being done to translate a parent education program from English into Spanish. That work is being funded by the Educational Audiology Association.

Methods

Data Collection

English

- early intervention hearing spanish
- early intervention deaf spanish

Spanish

- With accent
 - intervención temprana audición
 - intervención temprana sordos
- Without accent
 - intervención temprana audición
 - intervención temprana sordos

Search terms were selected across languages with the goal of including a range of hearing statuses. The Spanish search terms were selected in conjunction with a bilingual research assistant and insight from their community contacts.

Figure 2. Search terms.

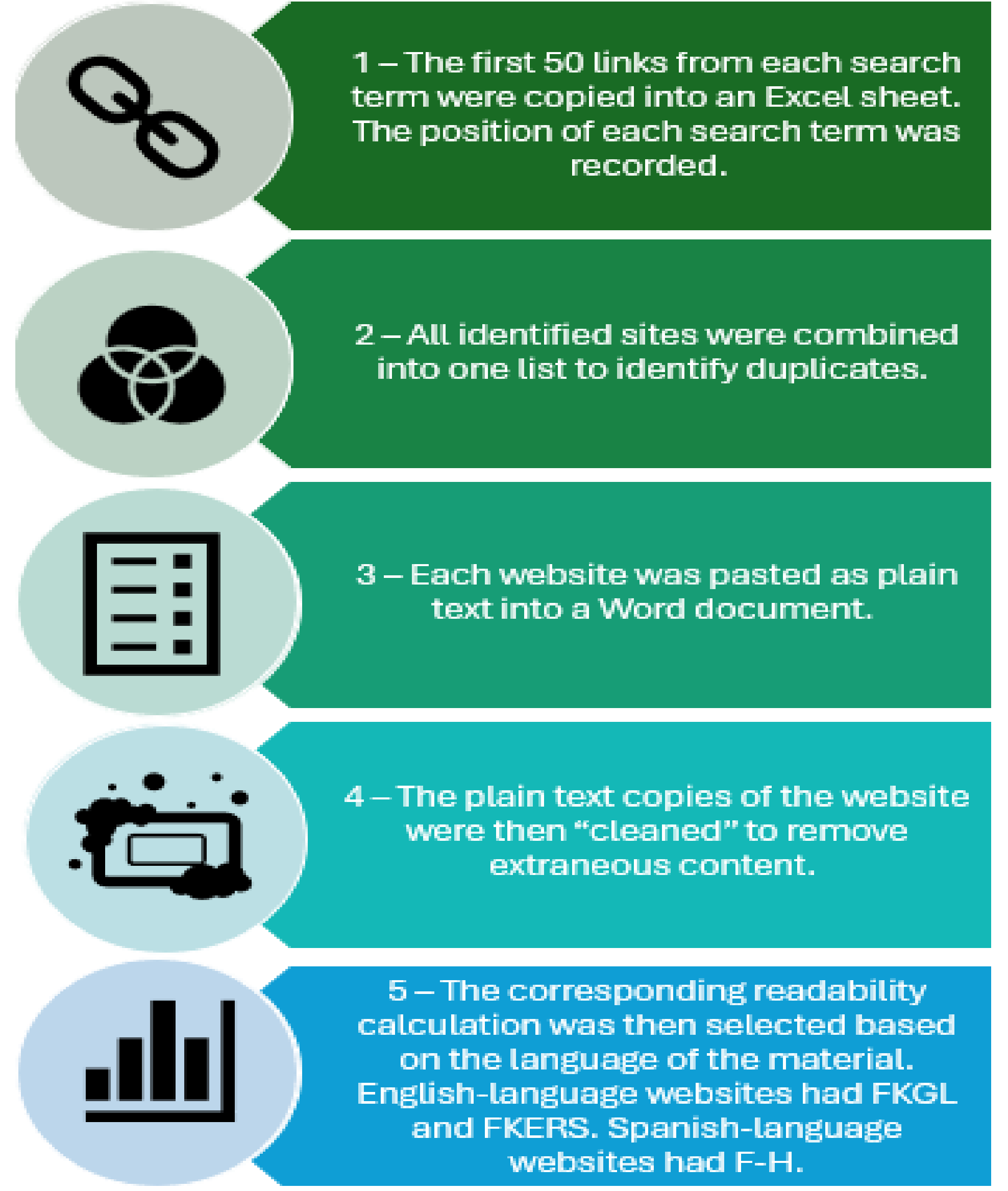


Figure 3. Steps of material collection.

Readability Assessment

FKERS was selected to be used in analysis because it uses the same scaling as the F-H (Coco, Corlina, Atcherson, & Marrone, 2017; Miguéns-Vila, Ledesma-Ludi, Rodríguez-Lozano, Varela-Centelles, Seoane-Romero, 2018; U.S. Department of Health and Human Services, n.d.; Weiss, 2006).

Flesch Kincaid Grade Level (FKGL)

- Places texts on a scale equivalent to US grades and beyond.

Flesch Kincaid Ease of Reading Score (FKERS)

Places texts on a scale of 0 (extremely difficult to read, consistent with the reading skills of a professional university graduate) to 100 (easily read, consistent with the reading skills for 5th grade education)

Fernández Huerta Reading Index (F-H)

Figure 4. Readability Assessments Used

Results

Ninety-one unique websites and useable websites were included for readability analysis (43 written in English and 48 written in Spanish).

English Language Materials

Readability was assessed for English materials using Flesh-Kincaid Ease of Reading Score (FKERS; mean=35.602, sd=15.651). FKGL scores were consistent with prior work (Woodruff & Cienkowski, 2022).

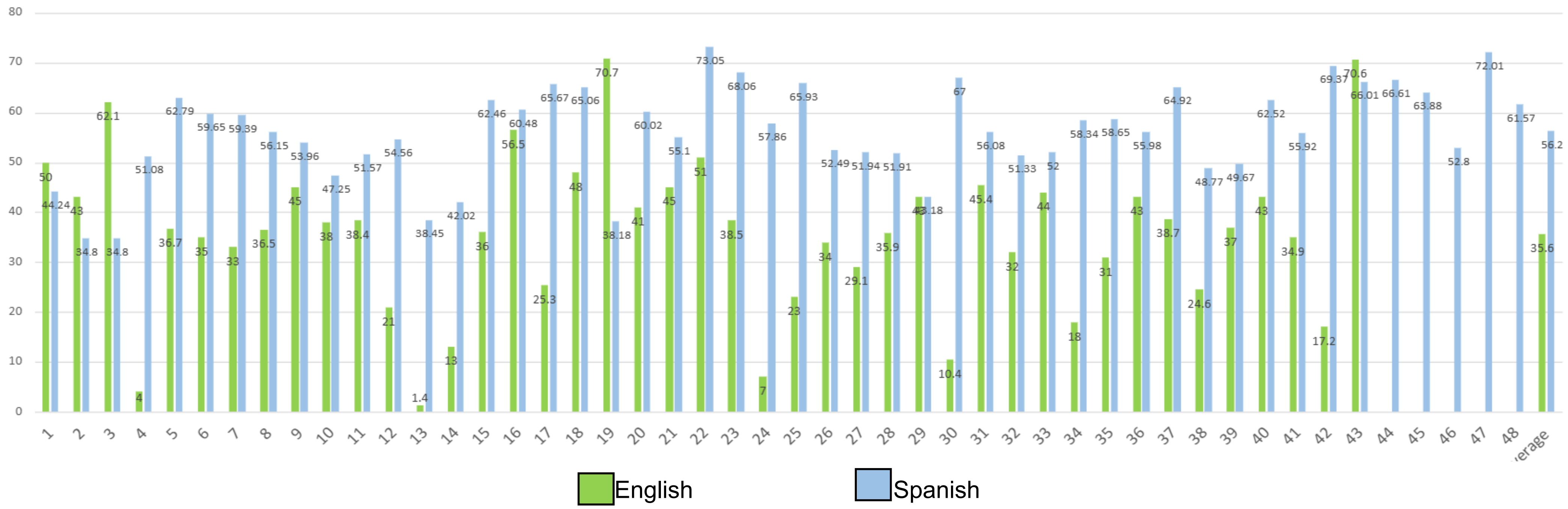


Figure 5. Readability Scores.

Comparison Across Languages

Using the FKERS and FHI allowed for comparisons since both use 100-point scales from easiest (100) to hardest (0) to read (mean=46.44, sd=16.35; Alabama Department of Public Health, nd). A comparison of FKERS and FHI found that English and Spanish materials were challenging to read (<50; secondary or post-secondary education required to understand) and scores exceeded recommended guidelines (>80, 6th grade education required to understand). Further, materials written in English were significantly more difficult to read (p<.05) than those in Spanish.

Discussion

There is a need for materials to be written in a way that is easily understood in ALL realms of healthcare, and especially for families with children who are DHH and in ALL languages. Our results indicate that providers who are using Google search functions may have trouble finding Spanish language materials if they do not know key terms in Spanish. Not having accessible resources creates or exacerbates barriers to early intervention. Access to information and ensuring family knowledge of EI is critical (Woodruff-Gautherin & Cienkowski, 2023)

With the call for the creation of more accessible written Spanish materials, translating accessible written materials is insufficient. There is a cooccurring need for inclusion of stakeholders with the target language as their native or heritage language, cultural liaisons, and those working within the realm of community engagement.

Figure 7. Call for action.

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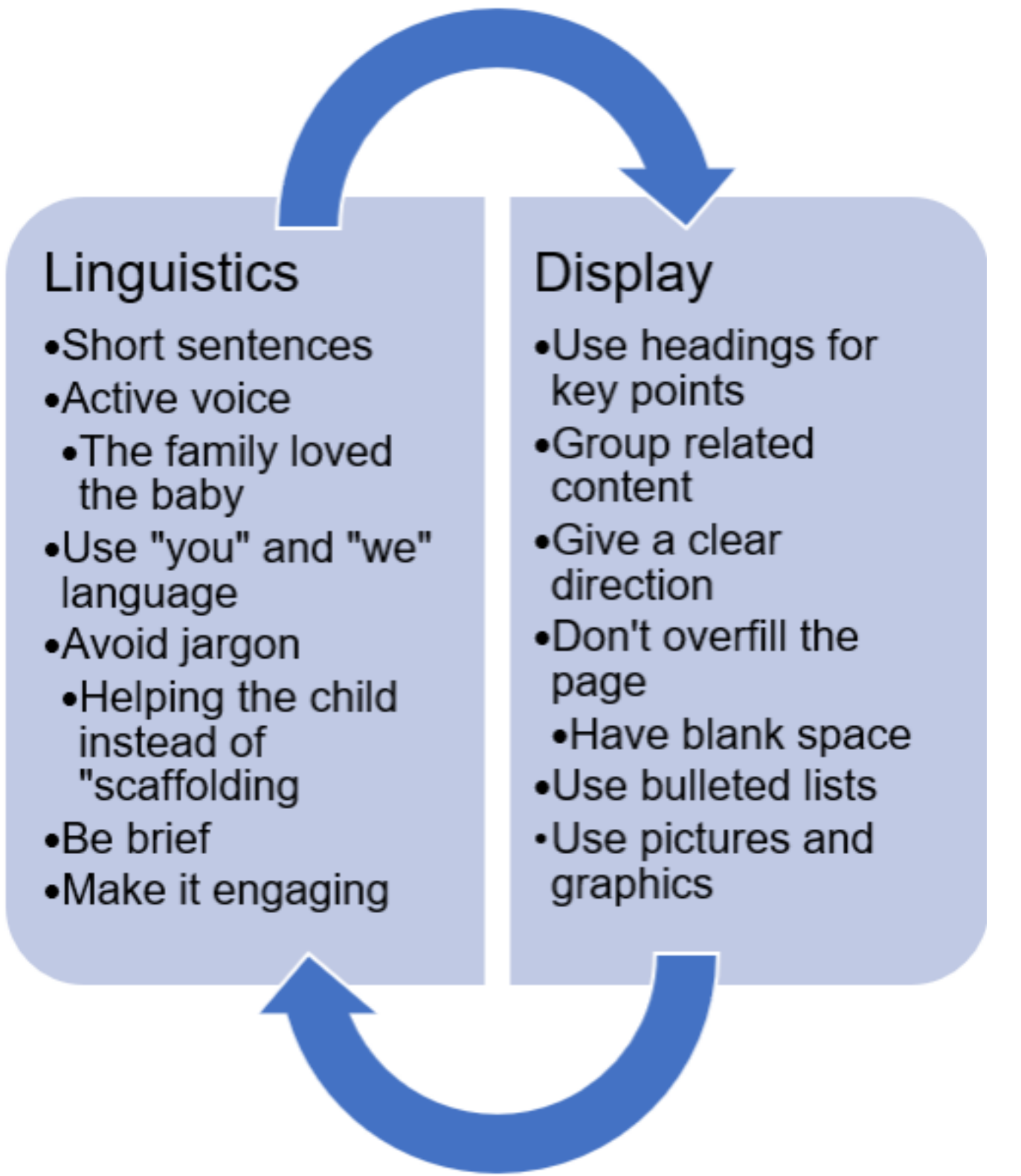


Figure 6. Readability supports.

Is your child D/deaf or hard of hearing?

Are you interested in being a part of hearing-related research?

Join the HELLO Lab participant pool for personalized invitations

Primary Investigator: Derek Houston derek.houston@uconn.edu

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