

Why we need evidence-based assessment in speech-language pathology and audiology

Prepared By:

Meghan M. Davidson, Ph.D., CCC-SLP

This module is a component of the ASHA CRISP Committee's Evidence-Based Assessment Project.

Outline

Introduction


What's the problem?

What are some solutions?

Case studies

Summary

Introduction

A photograph of a man and a young girl sitting on the floor in a library or study. The man, who is Black and wearing glasses and a white shirt with a dark vest, is leaning over and looking at wooden blocks the girl is playing with. The girl is a young white child with blonde hair in a ponytail, wearing a white shirt. They are surrounded by bookshelves filled with books. A large blue circle is overlaid on the left side of the image, containing the text 'What is evidence-based assessment (EBA)?'.

What is evidence-based assessment (EBA)?

A clinical **decision-making process** for determining an **assessment approach** that integrates best available evidence from scientific research, clinical practice experience, and client preferences and characteristics (based on the E³BP definition from Dollaghan [2007]).

Why is EBA important/ relevant?

Evidence-Based Practice

Evidence-Based Treatment

Evidence-Based Assessment

What's the problem?

Here's the problem 1

80.6%

of SLPs used “informal discussion with colleagues” to determine an assessment approach (Denman et al., 2021).



Here's the problem 2



Only
57%
of SLPs report using psychometrics
(validity and reliability) when
selecting an assessment
(Ogiela & Montzka, 2021).

Here's the problem 3

There is a
very poor
understanding of the fundamentals
and interpretation of diagnostic
accuracy research
(Vermiglio, 2018;
Bossuyt et al., 2003).



Here's the problem 4



Bias

in assessment impacts our
decision-making

**What are some
solutions?**

Here's a solution 1

Update
instructional
practices

(Denman et al., 2023)



Here's a solution 2



Implement
decision-making
processes

(Daub et al., 2021;
Denman, 2023)

Here's a solution 3

Use the
SUM Process
to reduce bias in
assessment.
(CRISP, 2023)



Case Studies

Case Study 1

3-year-old referred for delayed speech and language acquisition (only speaking in short, two-word phrases per parents)

- **Background:**
 - Primarily Spanish speaking family - recently moved to US
 - High SES, high expectations for children
 - **Initial Evaluation:**
 - Conducted in Spanish
 - Play-based assessment completed
 - Collected language sample & phonemic inventory
 - Parents reported no concerns about hearing; did not test
 - Parents reported the child ate well; did not do oral-mech exam
 - **Initial Intervention:**
 - Seen by evaluating SLP's practice for 1 year
 - Child made minimal progress
- Family brought child into another clinic due to limited progress for second opinion

Case Study 1

3-year-old referred for delayed speech and language acquisition (only speaking in short, two-word phrases per parents)

- **Second Evaluation:**
 - Comprehensive evaluation completed, including hearing screening & oral-motor assessment
 - Child failed hearing screening and sent to audiology for comprehensive evaluation & recommendations
 - Found to have moderate sensorineural hearing loss
 - Fitted with hearing aids
 - Additionally, evidence of motor coordination/sequencing issues on oral-mechanism exam and speech production difficulties were found.
 - **Second Intervention:**
 - Therapy program recommended was drastically different from the one the child previously received
 - Included auditory-verbal therapy techniques and motor planning speech approaches
- Child began to show progress immediately

Case Study 2

75-year old with severe demyelinating polyradiculoneuropathy and respiratory distress referred for dysphagia evaluation

- **Background**
 - Male in mid-70s with demyelinating polyradiculoneuropathy admitted to medical ICU for respiratory distress
 - SLP consulted for dysphagia
- **Initial Evaluation**
 - No issues noted during bedside swallow evaluation
- **Initial Intervention**
 - General diet and thin liquids recommended
- **Outcome**
 - SLP signed off

Case Study 2

75-year old with severe demyelinating polyradiculoneuropathy and respiratory distress referred for dysphagia evaluation

- Patient transferred to Neurology service and SLP re-evaluated for continued concerns about dysphagia
- **Second Evaluation**
 - Thorough chart review and interview with patient characterized nature of swallowing concerns
 - Full oral mechanism examination completed, notable for new lingual fasciculations
 - Mild dysarthria noted
 - Video fluoroscopy swallow study (VFSS) performed which revealed aspiration of thin and mildly thickened liquids
- **Second Intervention**
 - Modified diet recommended
- **Outcome**
 - Risk for aspiration pneumonia reduced

Summary

Summary

- Evidence-based assessment is applying decision making processes to assessment approaches
- Numerous assessment problems in our field have been identified:
 - Over-reliance on informal discussion
 - Under-use of psychometrics
 - Poor understanding of diagnostic accuracy
 - Bias
- Some potential solutions include:
 - Update instructional practices
 - Implement decision-making processes
 - Use the SUM process
- Case studies highlight need to:
 - Collaborate across fields
 - Invest in assessment to improve intervention outcomes
 - Integrate decision-making processes and reflective thinking for thorough assessment approaches

References

- Bossuyt, P.M., Reitsma, J.B., Bruns, D.E., Gatsonis, C.A., Glasziou, P.P., Irwig, L.M., ... & Lijmer, J.G. (2003). The STARD statement for reporting studies of diagnostic accuracy: Explanation and elaboration. *Annals of Internal Medicine*, 138(1), W1-12.
- Denman, D., Cordier, R., Kim, J.-H., Munro, N., & Speyer, R. (2021). What influences speech-language pathologists' use of different types of language assessments for elementary school-age children? *Language, Speech, and Hearing Services in the Schools*, 52(3), 776-793.
- Dollaghan, C.A. (2007). *The Handbook for Evidence-Based Practice in Communication Disorders*. Paul H. Brookes Publishing Company. Baltimore, MD.
- Fulcher-Rood, K., Castilla-Earls, A., & Higginbotham, J. (2020). What does evidence-based practice mean to you?: A follow-up study examining school-based speech-language pathologists' perspectives on evidence-based practice. *American Journal of Speech-Language Pathology*, 29(2), 688-704.
- Greenwall, T. & Walsh, B. (2021). Evidence-based practice in speech-language pathology: Where are we now? *American Journal of Speech-Language Pathology*, 30(1), 186-198.
- Laing, S. P., & Kamhi, A. (2003). Alternative assessment of language and literacy in culturally and linguistically diverse populations. *Language Speech and Hearing Services in Schools*, 34, 44-55.
- Nelson, M., & Wilson, L. (2021). Implicit bias and multilingual assessment in school-based speech-language pathologists. *Perspectives on Cultural and Linguistic Diversity*. https://doi.org/10.1044/2021_PERSP-21-00113
- Ogiela, D.A. & Montzka, J.L. (2021). Norm-referenced language test selection practices for elementary school children with suspected developmental language disorder. *Language, Speech, and Hearing Services in the Schools*, 52(1), 288-303.
- Vermiglio, A. J. (2018). The gold standard and auditory processing disorder. *Perspectives of the ASHA Special Interest Groups*, 3(6), 6-17.