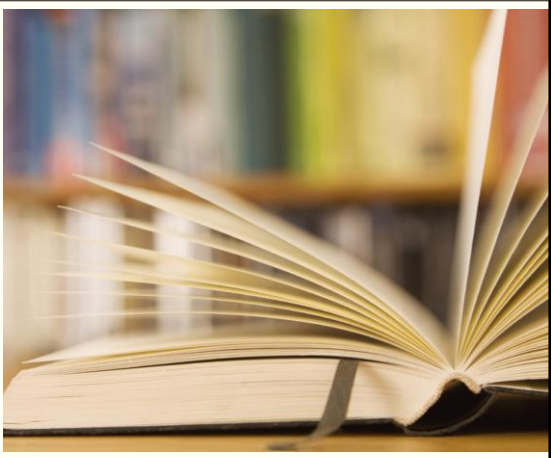
RE-THINKING SCHOOL-AGE LANGUAGE ASSESSMENT

OSSPEAC Conference
October 22, 2018



Disclosures for Sue Grogan-Johnson, Ph.D, CCC/SLP

- Financial Disclosure
  - I received a complimentary conference registration and hotel room for this presentation.
- Nonfinancial Disclosure
  - No disclosure

AGENDA

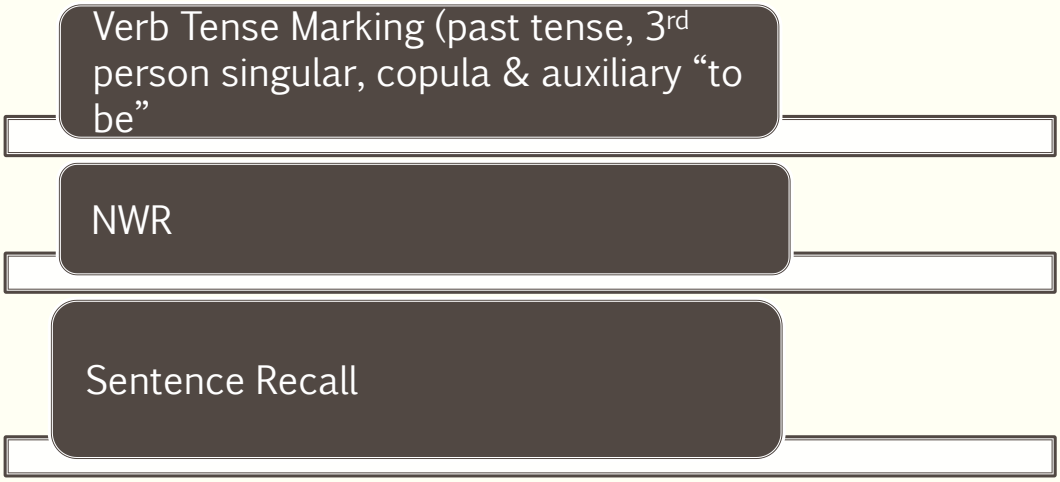
RISK FACTORS AND INDICATORS OF LANGUAGE IMPAIRMENT

RE-THINKING STANDARDIZED TESTS

SOME ADDITIONAL TOOLS FOR YOUR ASSESSMENT TOOL BOX

RISK FACTORS & CLINICAL MARKERS FOR LANGUAGE IMPAIRMENT

Clinical Markers for Specific Language Impairment



Clinical Markers of SLI: Verb Tense Marking

- Assessing verb form marking skills resulted in 97% accuracy identifying children with SLI and 98% accuracy identifying TYD children
- The developmental course for using verb tense is extended for children with SLI compared to TYD. It does not reach adult levels of accuracy by age 8 years.
- TYD children make very few (spoken)verb tense errors at any age
- Verb tense marking appears between the ages of 2-4 years

- Leonard,L., Deevy, P., Miller, C., Rauf, L., Charest, M., & Kurtz, R. (2003). Surface forms and grammatical functions: Past tense and passive participle use by children with specific language impairment. *Journal of SLHR, 46*, 43-55.
- Rice, M. (2000). Grammatical symptoms of specific language impairment. In D.V.M.Bishop & L .Leonard (Eds.), *Speech and language impairment in children: Causes, characteristics, intervention and outcome* (pp. 17-43). East Sussex, UK: Psychology Press.

Clinical Markers of SLI: Verb Tense Marking

- Past tense
- 3rd Person Singular
- Copula & Auxiliary "to be"

Difficulty with these are consistent for children with LI whether English is the child's first or second language.

When you are considering disorder vs. difference: pay attention to verbs

- Pavelko, S. (2017). Evidence-based practices in selecting and using standardized tests [Video webinar series]. Retrieved from http://www.speechpathology.com
- Paradis, J., Scheider, P., & Sorenson Duncan, T. (2013). Discriminating children with language impairment among English-language learners from diverse first language backgrounds. *JSLHR, 56*, 971-981.

Clinical Markers of SLI: NWR

- NWR includes repeating nonsense words of varying length and phonological complexity
- Students with SLI tend to perform worse on this task than TYD peers and also younger children with similar language levels.
- NWR tasks tend to correctly separate children with poor accuracy into a group with SLI and children with good accuracy into a group without SLI.
- Most of this research has been conducted with children 5 years and older
- Recently a NWR task available for preschool age students has been developed

- Coady, J., & Evans, J. (2008). Uses and interpretations of non-word repetition tasks in children with and without specific language impairments (SLI). *International Journal of Language and Communicative Disorders, 43*, 1-40.
- Shriberg, L., Lohmeier, H., Campbell, T., Dollaghan, C., Green, J., & Moore, C. (2009). A nonword repetition task for speakers with misarticulations: The syllable repetition task(SRT). *JSLJR, 52*, 1189-1212.

Clinical Markers of SLI: Sentence Repetition

- Premise of Sentence repetition/imitation is that to be successful the child must rely on their morphosyntactic knowledge
- Typical errors include producing the sentence with only the elements known to the child or changing the elements to fit their language level
- Sentence recall is "reasonably accurate" at identifying SLI, and predicting children likely to develop (at-risk) language impairment

- Archibald, L., & Joanisse, M. (2009). On the sensitivity and specificity of nonword repetition and sentence recall to language and memory impairments in children. *JSLHR, 52*, 899-914.
- Klem, M., Melby-Lervag, M., Hagtvet, B., Lyster, S., Fustafsson, J., & Hulme, C. (2014). Sentence repetition is a measure of children's language skills rather than working memory limitations. *Developmental Science, 18(1),* 146-154.
- Riches, N., (2012). Sentence repetition in children with specific language impairment: an investigation of underlying mechanisms. *International Journal of Language and Communication Disorders, 47 (5)*, 499-510.

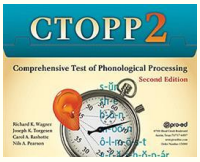
Available Tools to Assess Clinical Markers

- Verb Tense
- Test for Examining Expressive Morphology

- Rice Wexler Test of Early Grammatical Impairment (TEGI) https://cldp.ku.edu/rice-wexler-tegi
- DO A LANGUAGE SAMPLE

Available Tools to assess Clinical Markers

- Non word Repetition (NWR)
  - Subtest 8 of the CTOPP



  - NWR Task for PreK https://www.leadersproject.org/2013/06/07/preschool-disability-evaluations-module-29-dynamic-assessment-non-word-repetition-task-part-1/

Available Tools to Assess Clinical Markers

- Sentence Repetition Task (SRT)
  - Sentence Repetition Subtest of CELF-5
  - Sentence Imitation Subtest of TOLD: P4

CASE HISTORY RISK FACTORS ASSOCIATED WITH SLI

Current Understanding of Case History Risk Factors Associated with SLI

- Compare Case History Risk Factors to "Late Talker" status for identifying SLI
- Maternal level of education (less than a HS degree)
- Birth order (later born)
- Male
- Scored very low on the 5 minute Apgar Scale

Any one of these risk Factors = "late talker" Status for Developing SLI

- Rudolph, J. (2017). Case history risk factors for specific language impairment: A systematic review and meta-analysis. *AJSLP, 26,* 991-1010.

Hold Your Horses SLPs!

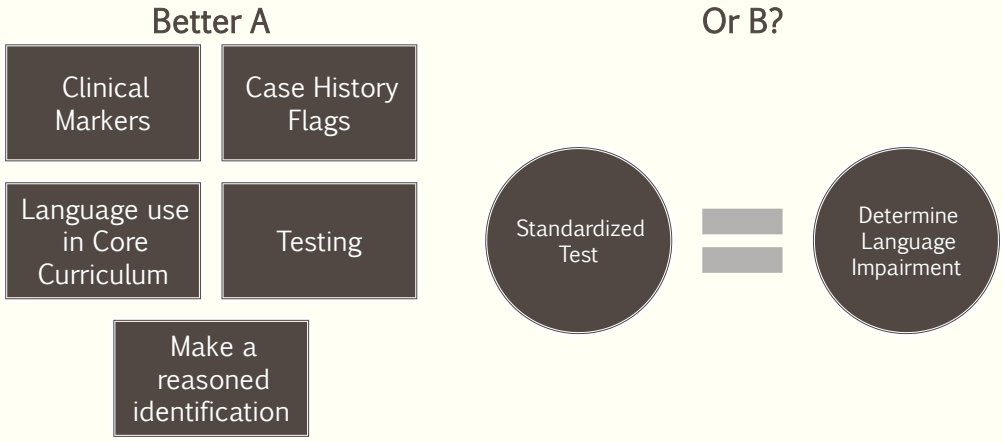
- These four clinical significant risk factors are only as informative as "late talker" status in identifying SLI
- We don't know the relative weight of each of the risk factors . We don't know if having one particular case history risk factor is more predictive than another and we don't know if having one or two of the factors is more predictive than having all of the risk factors.
- In making an identification of SLI we must consider the language learning context/environment of the child. We cannot isolate language skills or case history factors and make a determination

- Rudolph, J. (2017). Case history risk factors for specific language impairment: A systematic review and meta-analysis. *AJSLP, 26,* 991-1010.

So what can we take away from the Case History Risk Factors Research?

- Use Case History information along with your language testing to make a determination of SLI in young students
- Stay up to date on what's happening

SHIFT in THINKING



RE-THINKING STANDARDIZED TESTING

Review: Purposes of Assessment (Reed, 2018)

- Deciding if a child has a language impairment
  - Determining what language skills are and are not present
  - Profiling the child's language strengths and weaknesses as they relate to academic tasks
- Deciding if the child qualifies for intervention
  - What language abilities are interfering with access to and progress in the general curriculum
  - Deciding what to recommend for intervention if appropriate
- The impact of a potential language-based disorder should be established based on the interaction between the student's language abilities and his or her academic performance or participation within the academic setting. (Brandel & Peterson, 2018)

HOW DO SLPs FEEL ABOUT STANDARDIZED TESTS?

- SCHOOL-BASED SLPS
- Eickhoff, Betz & Ristow (2010) found that 50% of school-based SLPs rated standardized tests as THE most important method for assessing language.
- Essentially 100% of school-based SLPs listed standardized tests in the TOP 5 most important assessment measures
- SLPs CONDUCTING RESEARCH
- Betz (2013) in a selected review of ~100 SLI studies found that 89% included standardized tests in identifying participants with SLI and in 38% of the studies ONLY standardized tests were utilized.

MORE ON SLPs and STANDARDIZED TEST USE (Betz, Eickhoff & Sullivan, 2013).

- While multiple language tests are available of the top 10 tests utilized six were omnibus or "comprehensive" assessments and 4 were tests of single word receptive or expressive vocabulary. (CELF, PLS, PPVT, EOWPVT, CASL, CELF-PK, ROWPVT, TOLD-P, OWLS, EVT)
- Factors such as administration time, reliability, validity, diagnostic accuracy, did not correlate with frequency of use.
- The only factor that did correlate with frequency of use was publication year- with most recently published being positively correlated with use.
- Authors concluded that tests develop "reputations" in the field and SLPs are likely to select tests based on what they hear from other clinicians

Determining the Quality of Standardized Language Tests

(Brandel & Petersen, 2018)

- Test Content for School-based Assessment
  - Does the assessment measure academic language?
  - Include evaluation of complex syntax ?(understanding and using coordinating and subordinating conjunctions, elaborated NP)
  - Include proficiency with different expository styles and narratives?
  - Is language ability assessed within a meaningful context?
    - Can the SLP determine how the child is combining the components of language such as required in school
- Understanding the Norming Population
  - Was the sampling population similar to the SLP's school population?
  - Conceptual flaw of normed tests?
  - Including students with impairment in the norming sample?

Determining the Quality of Standardized Language Tests
(Brandel & Petersen, 2018)

- Reliability
  - SEM
  - Confidence Levels
- Validity

Determining the Quality of Standardized Language Tests
(Brandel & Petersen, 2018)

Accuracy

Diagnostic accuracy is reported as a test's sensitivity and specificity.

Sensitivity= accuracy of the test to identify impairment

Specificity= accuracy of the test to identify typical or non-impairment

Test Accuracy can also be measured by Positive and Negative Predictive Power- but we will not be discussing this concept.

Understanding Test Sensitivity and Specificity

Language Ability → / Test Identification ↓	Language Disorder	Typical Language
Language Disorder	True Positive A	False Positive B
Typical Language	False Negative C	True Negative D
	Sensitivity A/A + C	Specificity D/B + D

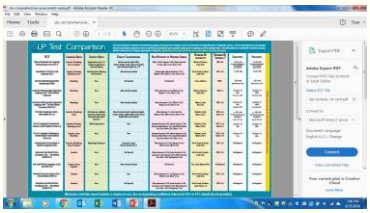
- Test Sensitivity and Specificity should be at least .80 to decrease likelihood of misidentification.

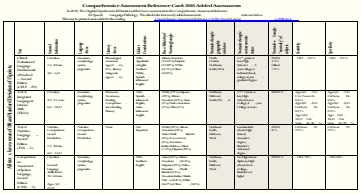
Understanding Test Sensitivity and Specificity

(Brandel & Petersen, 2018)

- Measures of sensitivity and specificity are dependent on the cutoff score that is utilized to identify impairment or non-impairment (e.g. -1.5 SD below the mean)
- For some norm-referenced tests the cutoff score that provides the best diagnostic accuracy DOES NOT align with the most commonly utilized cut off scores required by agencies
- Ideal: SLP selects tests that have adequate sensitivity and specificity at the required cut-off score
- Practical: SLP knows the S & S of various tests and uses those cut-off scores which meet the S & S requirements

Assessment Comparison Activity (VA DOE (2015, 2018)





- Test Analysis

1. Assess academic language/multiple areas/language in context or isolation
2. Assess norming sample: race/geography/inclusion of children with impairment?
3. What is the sensitivity & specificity related to the cutoff score for identifying disability for your favorite tests?
4. No test is perfect. Even with adequate sensitivity and specificity there may be other "issues" with an assessment

Practice (Pavelko, 2017)

- Which cut score would you use?
- A. -1 SD

  Sensitivity: .98 Specificity: .89
- B. -1.5 SD

  Sensitivity: .86 Specificity: .96
- C. -2 SD

  Sensitivity: .54 Specificity: .98

Leader's Project

- https://www.leadersproject.org/
- Program of the Teacher's College of Columbia University
- Variety of resources with an emphasis on bi-lingual resources and application
- Assessed the Diagnostic Accuracy of the CELF-5 & PLS-5 and other selected assessments
- Highlights of CELF-5 Review
  - The Leaders project identified a number of concerns related to the psychometric properties of the test which is worth your reading
  - While the manual reports adequate S & S; the Sensitivity group consisted of only 67 students aged 5 – 15 and their inclusion in the group was based on performance on the CELF-4 or PLS-4 which are tests without adequate diagnostic accuracy. The Specificity group was not identified using the same reference standard as the Sensitivity group.
- Highlights of PLS-5 Review
  - Similar to CELF-5
  - Concerns with cultural bias
- https://www.leadersproject.org/2014/02/17/test-review-celf-5/
- https://www.leadersproject.org/2013/11/25/test-review-pls-5-english/

Special Note on One-Word Vocabulary Standardized Tests

- Poor vocabulary skills, while a characteristic of SLI are not a clinical marker for SLI
- Children with SLI tend to perform well on one-word vocabulary tests
- One-word vocabulary tests are a better measure of SES then language skills (Spaulding, Hosmer & Schechtman, 2013).
- Earlier research (Gray, Plante, Vance & Henrichsen, 1999) determined that four commonly utilized one word vocabulary tests (PPVT-3, EVT, EOWPVT-R, ROWPVT) did not have sufficient diagnostic accuracy. (S & S did not exceed .77 for any of the tests)

Re-Thinking Language Testing on Wednesday

- You may find test sensitivity and specificity information in the test's statistical manual OR from research
- Choose standardized tests wisely
- Know the test's limitations
- Use additional data from other sources
- "A number does not tell you how a child functions." (Pavelko, 2017).

A Functional Framework for Language Evaluations

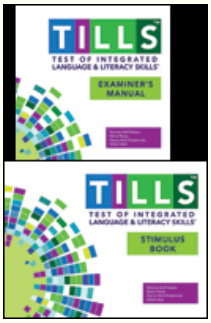
- "To best understand the language demands within the curriculum the student's oral and written language skills, as well as the interaction between these, the SLP must triangulate information from multiple sources when completing a school evaluation."

(Brandel & Petersen, p.68)

ADDITIONAL TOOLS FOR YOUR ASSESSMENT TOOL BOX

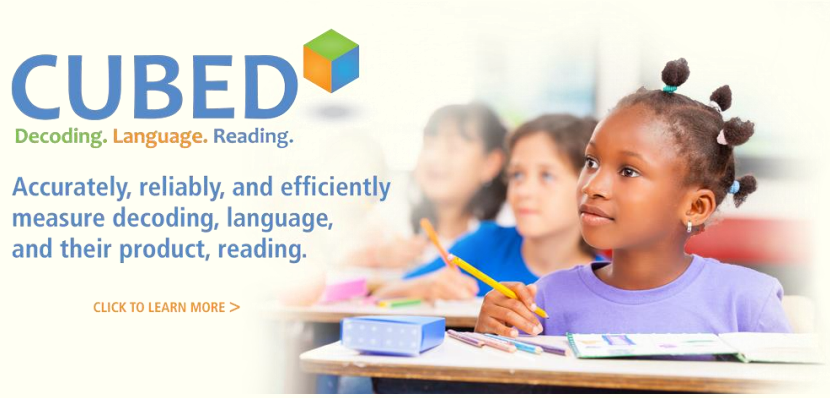
Assessment Tools for you to Consider

- **Test of Integrated Language and Literacy Skills (TILLS)** by Nickola Wolf Nelson, Elena Plante, Nancy Helm-Estabrooks, & Gillian Hotz. 2016 Paul H. Brookes Publishing Co.
- **Assesses** oral and written language skills in students ages 6—18 years. TILLS is a comprehensive, norm-referenced test
- :To identify language/literacy disorders
- To document patterns of relative strengths and weaknesses
- To track changes in language and literacy skills over time
- https://tillstest.com/
- http://archive.brookespublishing.com/documents/15-TILLS-subtests.pdf
- Review characteristics in VA DOE Test Analysis



Assessment Tools for You to Consider

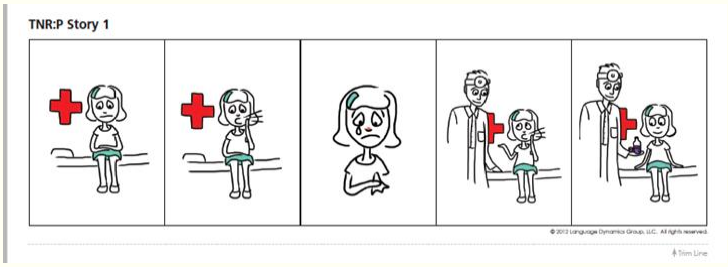
http://languagedynamicsgroup.com/



Basic Information Re: NLMs

- Standardized, Criterion Referenced measure of narrative skills for PreK – Third Grade
- Also Criterion Referenced Reading Materials
- **PreK NLMs** assess narrative retell, story comprehension & personal story generation/ English & Spanish
- **School Age NLMs** assess narrative retell, story comprehension, Tier 2 vocabulary knowledge & story generation
- Benchmark assessments and Progress monitoring assessments

Example of Picture Support for NLM narrative (listening comprehension) Assessments



NLM Philosophy

- NLMs do not use fictional stories
- Personal-themed narratives
- Picture support is only available at the PreK level
  - Can be used to support story telling for our youngest clients
  - Temporary use and fade as able

Downloading the Narrative Language (Listening) Measures

http://languagedynamicsgroup.com/

Assessment Tools for You to Consider

- SLAM Materials https://www.leadersproject.org/disability-evaluation/school-age-language-assessment-measures-slam/
- Informal multi-cultural assessments
- Span PreK – Middle School and a

Variety of languages

Tasks include: Language samples,

Following directions, Understanding

Spoken and read passages, some

Higher level/inferencing questions

Resources

- VA DOE SLP web page http://www.doe.virginia.gov/special_ed/disabilities/speech_language_impairment/index.shtml

- Webinar Series by Dr. Stacey Pavelko on Speech Pathology.com

  Pavelko, S. (2017). Evidence-based practices in selecting and using standardized tests [Video webinar series]. Retrieved from http://www.speechpathology.com

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Thank you!

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