

Webinar on Prevention
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Oral Transcript

Slide

- 1 Thank you for your interest in learning about differential diagnosis and treatment planning in the context of response to instruction (RTI).
- 2 Psychologists assess for at least three reasons. One reason is to determine if an individual meets eligibility criteria for special education services or for accommodation for a disability.
- 3 Another reason is to describe the individual profile of relative strengths and weaknesses as part of comprehensive assessment.
- 4 Yet another reason is to diagnose specific educationally handicapping conditions. Family genetics research has identified hallmark phenotypes (behavioral expression of underlying genotypes) that are related to brain structures and functional brain activation. These phenotypes are often observed in individuals as a constellation of component processes. An individual may be impaired in all of them or a subset of them.
- 5 For the learning disabilities covered in this presentation, the hallmark phenotype features occur within a working memory architecture, which has 3 components displayed in this slide: 3 word form coding units (for storage and processing), 2 loops, and a panel of executive functions. Each component has a phonological core process, which if impaired interferes with learning to read and spell written words. If any of the components are underdeveloped or are not coordinated in time, fluency problems result. Thus, PAL II is grounded in a conceptual model that has been validated in research. PAL II has subtests for assessing each word coding process—phonological, orthographic, and morphological, each loop (RAN and Alphabet 15/Finger Succession), and Executive Functions (RAS).
- 6 This figure tells the same story as the prior table. See text to right for important phenotypes to assess for dysgraphia and PAL II or other subtests to use.
- 7 See text to right for important phenotypes to assess for dyslexia and PAL II or other subtests to use.
- 8 See text to right for important phenotypes to assess for OWL LD and PAL II or other subtests to use.
- 9 Which word coding unit (for storage and processing) is impaired is related to whether students tend to show signs of dysgraphia, dyslexia, and/or OWL LD.

- 10 Now I will define dysgraphia on the basis of which components of the working memory architecture may be impaired.
- 11 All children with the learning disabilities discussed need instruction aimed at each working memory component, but children with dysgraphia need specialized instruction in orthographic coding and orthographic loop.
- 12-15 Lessons and instructional tools for this purpose can be downloaded from PAL II User Guide on CD (see Decoder to access address on CD). This presentation will be posted prior to the webinar and can be consulted for instructional strategies and lessons that were validated in our writing research.
- 16 PAL II measures can be used to assess response to specialized instruction for dysgraphia.
- 17,18 Now I will define dyslexia on the basis of which components of the working memory architecture may be impaired.
- 19 Specialized instruction for dyslexia should be aimed at all working memory components. Instructional materials for this purpose that were validated in our research can be reviewed on the posted presentation following the webinar.
- 20-27 Evidence-based lessons and strategies can be downloaded from PAL II User Guide. See Decoder for access address on CD.
- 28 PAL II along with other tests can be used to assess response to specialized instruction for dyslexia.
- 29, 30 Now I will defining OWL LD on the basis of which components of the working Memory architecture may be impaired.
- 31 Specialized instruction for OWL LD is aimed at all WM components but especially morphology and a new unit for coding multiple accumulating words—the syntax coding unit for storing and processing clauses, sentences, and t-units.
- 32 Recommendations for treating OWL LD are offered, but also consult with SLP.
- 33 PAL II along with other tests can be used to assess response to specialized instruction for OWL LD.
- 34 What is the PAL II Math Diagnostic?
- 35 Subtests for assessing math skills.
- 36 Subtests for assessing math-related processes

- 37 This picture illustrates the working memory architecture that supports math learning.
- 38 Defining dyscalculia
- 39 Recommendations for treating dyscalculia
- 40 Assessing response to specialized instruction for dyscalculia
- 41 Other PAL II User Guide resources for treatment of all the LD's discussed in this presentation. The PAL II Diagnostic flow charts are useful in helping psychologists think through the diagnostic process for deciding whether a student has one of the specific LDs covered in this presentation. These diagnostic flow sheets are in the website posted after this webinar. So is the Decoder.
- 42 PAL II User Guide on CD provides a ROAD MAP for the 3 tiers of application of the PAL II to psychological assessment-intervention: prevention, problem solving consultation, and differential diagnosis and instruction.
As important as assessing the processes of the learner and using evidence-based instructional methods is **C³** which creates the positive student-teacher relationships (**Compassionativity**) that support learning
- 43 2 reasons that assessing processes related to learning to read, write, and do math matter: etiology and treatment
- 44 Further reading about the sources of evidence, with application to psychological and educational practice.