Early Identification of Reading Disabilities within a RTI Framework

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Overview

• Early identification represents a significant challenge
• RTI has the potential to improve accuracy
• Instruction is critical
• Study using universal screening and response to tiered instruction
• Dynamic assessment
A Significant Challenge

• Predicting reading outcomes is a very difficult task

• Best predictor of future reading is current reading

• Children who get off to a good start generally continue to do well and those who show initial problems generally continue to struggle
A Significant Challenge

• Can’t rely on initial reading ability as a predictor until children have had sufficient instruction

• Preschool children’s ability to read is not predictive of later reading achievement

• Numerous false positives
Traditional Approach

• Cognitive abilities
  - visual perception
  - visual memory
  - motor skills
  - PA
  - rapid naming
  - verbal memory
  - oral language

• Other factors
  - family history
  - SES
  - mother’s education
Challenge

• Most of these abilities have only limited correlation with later reading achievement ($r \leq .50$)

• Need correlation $>.70$ for a predictor or combination of predictors to have accurate identification
RTI

• RTI is the best hope for early identification of reading disabilities
• Uses reading (or early literacy) skills to predict future reading achievement
• But assures instruction at several levels to reduce false positives
RTI for Early Identification

• Tier 1 - Provide good, high quality, instruction and measure all children’s response (i.e., universal screening)

• Tier 2 - Provide supplemental instruction to children who fail screen and measure their response to this instruction
Challenges for RTI

• Model assumes good, high quality instruction
  - identify children as at-risk if they do not respond in a manner that is consistent with the instruction – universal screen or progress monitoring
  - RTI is a discrepancy model
Catts, Nielsen, & Bridges (in progress)

- Examine the effectiveness of RTI in kindergarten for the early identification of RD in the primary grades
- Contributions of Tier 1 screening and response to Tier 2 intervention to prediction of reading outcomes
Catts, Nielsen, & Bridges (in progress)

366 kindergarten children
262 at-risk for RD based on initial DIBELS screening

Screening battery administered in mid-late Sept of kindergarten

LNF (DIBELS)
ISF (DIBELS)
Letter Identification (WRMT-R)
Sound Matching (CTOPP)
RAN (CTOPP)
Sentence Imitation (TOLD 2:P)
Nonword Repetition (NWR)
Dynamic Screening of Phonological Awareness (DSPA)
Test of Narrative Language
PPVT-3
PAR – expressive vocabulary
Catts, Nielsen, & Bridges (in progress)

• Evaluate the prediction of reading outcomes in 1st-3rd grades
• WRMT-R: Word Identification, Word Attack
• Logistic regression to test various models of combined predictors
• Analyses are weighted to reduce the effect of oversampling at-risk children
• Area under curve (AUC) to quantify accuracy
Vocabulary Probe

- Taught 42 words in the context of storybooks
- 143 at-risk children
- Pre-, Mid-year, Post-test
- Open-ended, multiple-choice questions (3 point each)
- Examined individual differences in response - growth curves, gain scores
Vocabulary Probe
Narration

• Language intervention also taught children how to use story structure to understand and retell stories
• Pre-test, post-test TNL
• 143 at-risk children received intervention
• 101 at-risk controls and 102 typical received no intervention
Test of Narrative Language - Expressive

Typical

Intervention

No intervention

Pre-test

Post-test
Dynamic Assessment

• Measurement of learner’s potential over the short term
• Assessor actively intervenes during the course of the assessment with the goal of intentionally inducing changes in the learner's current level of performance.
• “Mini-assessment” of response to intervention

Dynamic Assessment

• Phonological awareness (Bridges & Catts, 2009; 2011)
• Decoding (Fuchs et al. 2011; Bridges, Catts, & Chang, in progress)
• Vocabulary (Camilleri & Law, 2007)
• Narrative (Pena et al., 2006)
Thank You