

# 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 response 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

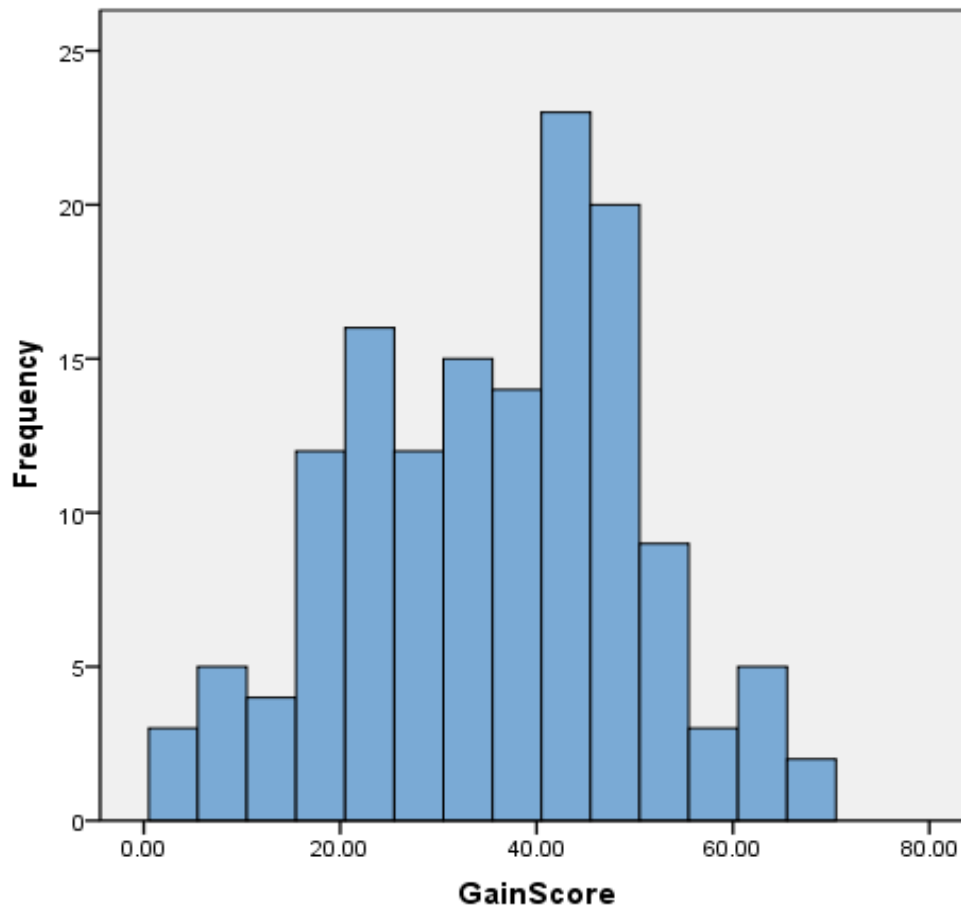
# Catts, Nielsen, & Bridges (in progress)

- Evaluate the prediction of reading outcomes in 1<sup>st</sup>-3<sup>rd</sup> 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

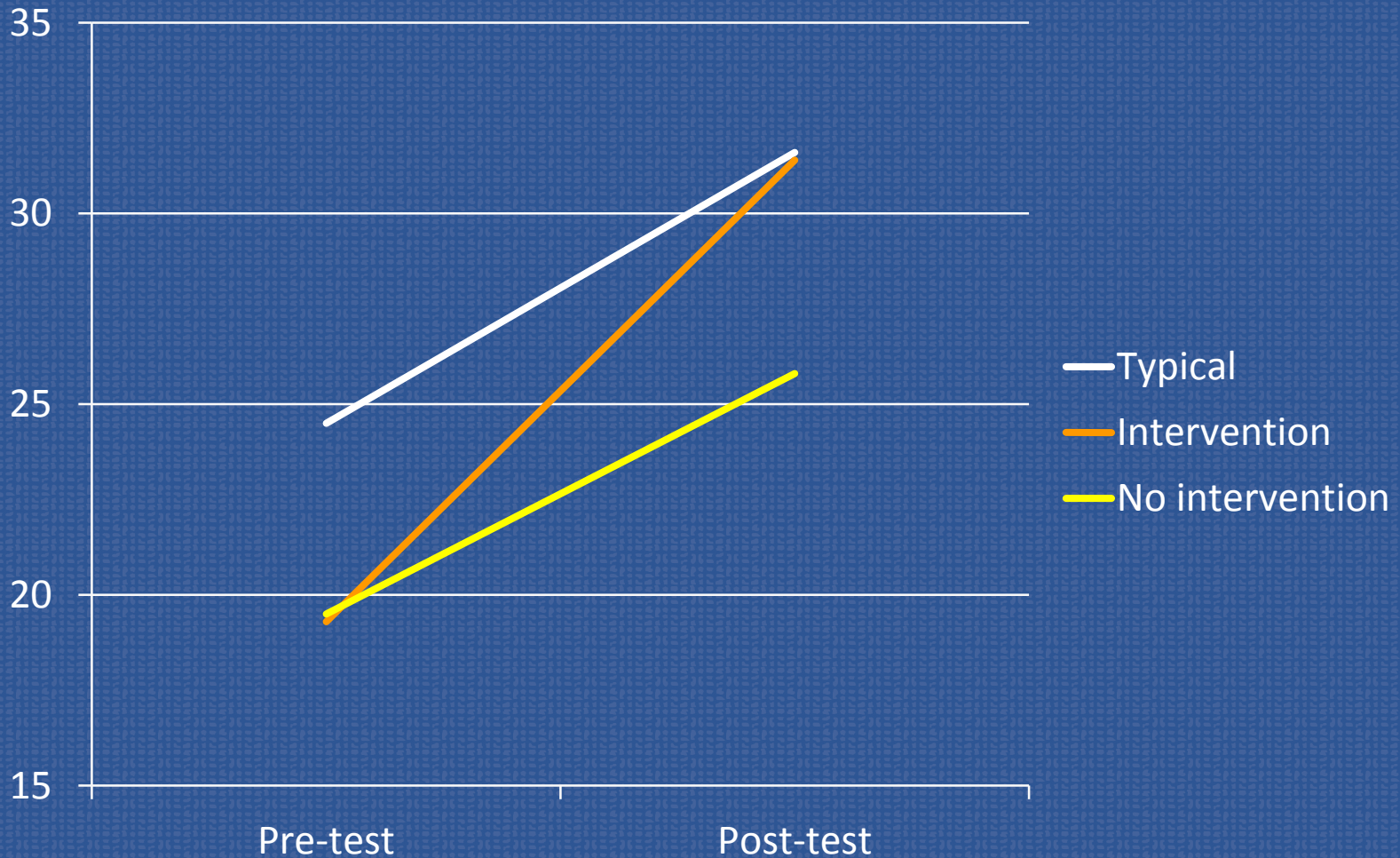
# Vocabulary Probe



# 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





# 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

Grigorenko, E.L. (2010). Dynamic assessment and Response to Intervention: Two sides of the same coin. *Journal of Learning Disabilities*, 42, 111-132.

# 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