

Disclosure

Dr. Kelly A. Powell-Smith, Dr. Jacob S. Gray, and Amy N. Warnock are employees, and Dr. Roland Good is co-owner, of Acadience Learning Inc. (ALI).

ALI is an educational company that is dedicated to supporting success for children and schools. ALI was founded by Roland H. Good III and Ruth Kaminski, the original authors of the Dynamic Indicators of Basic Early Literacy Skills (DIBELS®)*. ALI receives revenue from the publication of the assessments in our family of assessments, training and professional development, and the operation of Acadience Learning Online and Acadience Data Management, our data reporting services.

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Session Objectives

- This session will help participants:
 - 1. become familiar with new RAN measures
 - understand the association between various RAN measures and other commonly used reading measures
 - understand the differences between RAN and extant reading measures, including Letter Naming Fluency

Rapid Automatized Naming (RAN)

Rapid Automatized Naming (RAN) is "the ability to name, as quickly as possible, visually presented *familiar* symbols such as digits, letters, colors, and objects" (Georgiou et al., 2013)

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Acadience RAN

Rapid Automatized Naming = quickly and accurately naming repeated sets of highly familiar items

- functions as a predictor of reading skills
- difficulties with RAN don't impact reading as much as difficulties with phonological awareness
- no known way to directly improve RAN



Research Base for RAN Research suggests RAN is • a reliable measure of automatic naming • predictive of a variety of reading and readingrelated skills Research on the technical adequacy of the Acadience RAN measures is forthcoming.

The Predictive Power of RAN Correlation with Oral Reading Fluency in second grade: -.56 (Georgiou & Parrila, 2020) Correlation with Silent Reading Fluency in second grade: -.40 (Georgiou & Parrila, 2020) RAN predicts Word Reading Initial Status and Word Reading Growth (Clayton et al., 2019) RAN predicts Word Identification Fluency intercept (-.40 and -.47) (Fuchs et al., 2012) RAN at Time 1 correlates with reading outcomes at Time 2 (Cho et al., 2017): ▶ .45 for Test of Word Reading Efficiency: Phonemic Decoding Efficiency; ▶ .50 for Test of Word Reading Efficiency: Sight Word Efficiency; ▶ .39 for Woodcock Reading Mastery Tests-Revised/Normative Update: Word Attack; ▶ .38 for Woodcock Reading Mastery Tests-Revised/Normative Update: Word Identification. a

The Mystery of RAN

Theories about why RAN works to predict:

- "RAN taps into a language-universal cognitive mechanism that is involved in reading alphabetic orthographies" (Landerl et al., 2019)
- "RAN is sometimes interpreted as also reflecting phonological processing" (Savage, Pillay, & Melidona, 2007)
- "sequential naming mimics the timely integration of visual and verbal skills required during efficient word recognition" (Landerl et al., 2019)
- Alphabet knowledge may completely explain the relation between RAN and later reading outcomes.

Analysis Plan

- One goal of Acadience Measures is the prediction of later reading outcomes and the identification of students who are at risk of difficulty learning to read
- We will examine RAN with an eye towards predicting later reading outcomes
- In order to examine the unique prediction of RAN, we need to control for RCS and LNF

Three Research Questions 1. Does Acadience RAN significantly predict later reading outcomes controlling for RCS? i.e. Does RAN add any information not already captured by RCS? 2. Does Acadience RAN significantly predict later reading outcomes controlling for LNF? i.e. Is RAN the same thing as LNF? 3. Are the three RAN measures equal in their predictive validity?

The Problem of Missingness

- In this study, we had two sources of missing data
 - One is built into RAN
 - Those who were missing RAN Numbers did better on RAN Letters
 - The other comes from the data that were collected
- Students with RAN scored slightly higher
- We used Full Information Maximum Likelihood to estimate regressions because of better performance with missing data

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RAN Measure	Grade K BOY RCS	Grade K BOY LNF	Grade K MOY RCS	Grade K MOY LNF	Grade K EOY RCS	Grade K EOY LNF	Grade 1 BOY RCS	Grade 1 BO
Total	60	59	45	50	64	68	61	68
Objects	47	47	32	34	52	54	48	54
Letters	62	61	54	57	63	69	65	71
Numbers	55	56	53	57	64	68	62	69









Research Question 3

Are the three RAN measures equal in their predictive validity?

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What does this incremental validity mean for classification accuracy (AUCs)?

Linkage	None	RCS Only	RCS + RAN	LNF Only	LNF + RAN
K BOY -> K MOY	.50	.69	.76	.63	.74
K BOY -> K EOY	.50	.66	.75	.65	.75
K MOY -> K EOY	.50	.83	.85	.83	.85
K MOY -> G1 BOY	.50	.80	.84	.80	.83
K EOY -> G1 BOY	.50	.88	.90	.86	.87

- We see a substantial improvement in classification accuracy at BOY, but a marginal improvement by the end of year
- This means the earlier we get the information contained in RAN, the more benefit we get

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Dyslexia Screening and the Use of Acadience[®] Reading A hallmark of dyslexis is poor reading performance in the face of generally effective reading instruction (VanDerHeyden & Burns, 2017). Thus, one of the most definitive indications of dyslexis and risk for dyslexis is a combination of (1) severe low skills on measures of phonological processing including phonemic awareness and phonics and (2) a sustained lack of adequate progress in learning the basic enditors, phases with the standard several sev Isaming the basic safe) Iteracy Alls then prodiced with generally effective instruction. Using a single test rate also encoded the second sec Acadience Reading supports students with dyslexia or who are at risk for dyslexia in the following four distinct ways voyagersopris.com/dyslexia © Acadience Learning | October 2015 VOYAGER SOPRIS acadience

Resources

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