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The Use and Validity of Preschool Early Literacy Indicators (PELI) in Kindergarten

Presentation to the International Dyslexia Association

October 14, 2023

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Acadience Learning

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Overview

The issue

- Prevention of reading disabilities
- Early assessment and identification

The research

- Purpose and questions
- Design and methodology
- Analyses and findings
- Future directions

Implications for early identification and prevention

International Dyslexia Association Definition

"Dyslexia is a specific learning disability that is neurobiological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction. Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede growth of vocabulary and background knowledge."

Adopted by the IDA Board of Directors, Nov. 12, 2002. Many state education codes have adopted this definition. Learn more about how consensus was reached on this definition: *Definition Consensus Project*.

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The Promise of Prevention

- Dyslexia is not a distinct and uniform set of symptoms.
- We can identify risk factors and protective factors.
- Academic outcomes improve and impacts are large for students who are identified and receive intervention in earlier grades.
- Risk for reading disabilities including dyslexia may be reduced through early identification and intervention on the essential early literacy and reading skills.

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Catts & Petscher, 2018; Foorman & Torgesen, 2001; Moats, 2018; Pennington et al., 2021

A Prevention-Oriented Model of Dyslexia

A prevention-oriented model

1. Start early
2. Focus on essential early literacy and reading skills
3. Conduct ongoing assessment:
   a. Assess all students periodically
   b. Monitor progress of some students more frequently
4. Examine instructional effectiveness

1. Start Early

Critical precursor skills for later reading develop long before children enter school and begin formal reading instruction.

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2. Focus on Essential Skills

Essential early literacy and reading skills

- Phonological and phonemic awareness
- Alphabet knowledge
- Phonics skills
- Understanding of the alphabetic principle
- Word reading and decoding
- Accuracy and fluency reading text
- Vocabulary and oral language
- Reading comprehension

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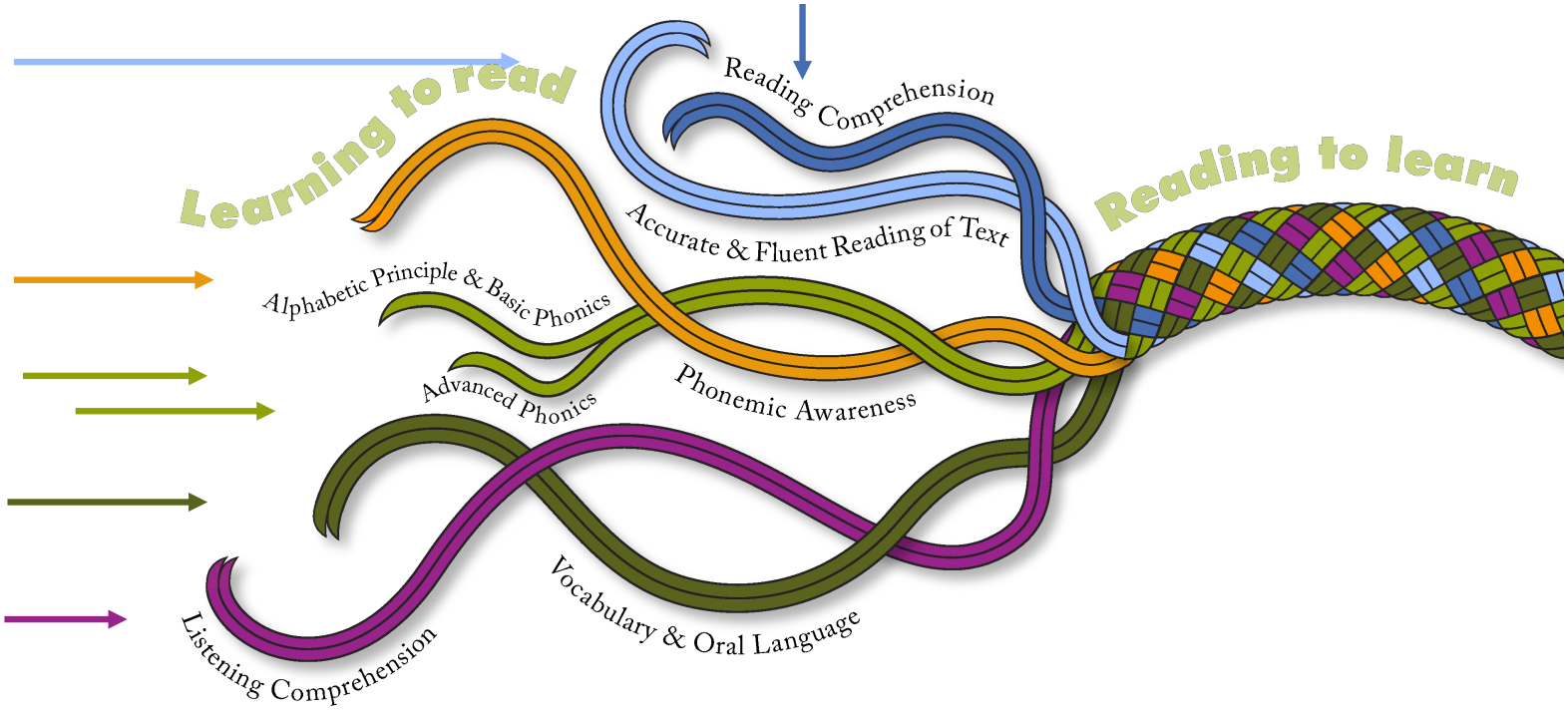
Essential Early Literacy and Reading Skills

Early literacy and reading skills are developmental in nature. That is, earlier skills provide a foundation for later skills which build on and integrate with earlier skills over time as students master them.



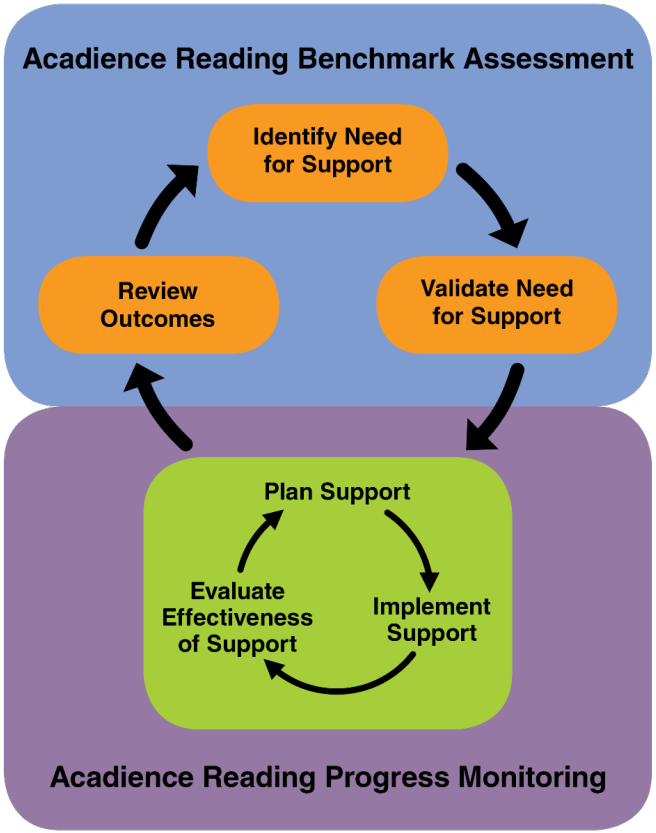
Indicators of Risk for Dyslexia

- Rapid automatized naming
- Family history of dyslexia
- History of speech-language delay

3. Conduct Ongoing Assessment

Outcomes Driven Model:

1. Identify need for support.
2. Validate need for support.
3. Plan and implement support.
4. Evaluate and modify support.
5. Review outcomes.



4. Examine Instructional Effectiveness

Across the various system levels of analysis, when there is strong to moderate evidence of generally effective instruction, but the student is experiencing sustained and serious learning difficulties, this strengthens the evidence that the difficulty is not due to poor quality instruction or the lack of instruction and it strengthens the concern about dyslexia or severe reading disability.

If one cannot show evidence of generally effective instruction, then it is hard to argue that the student's difficulties are due to dyslexia or other reading disabilities.

Early Assessment and Identification: Focus on Changing Outcomes

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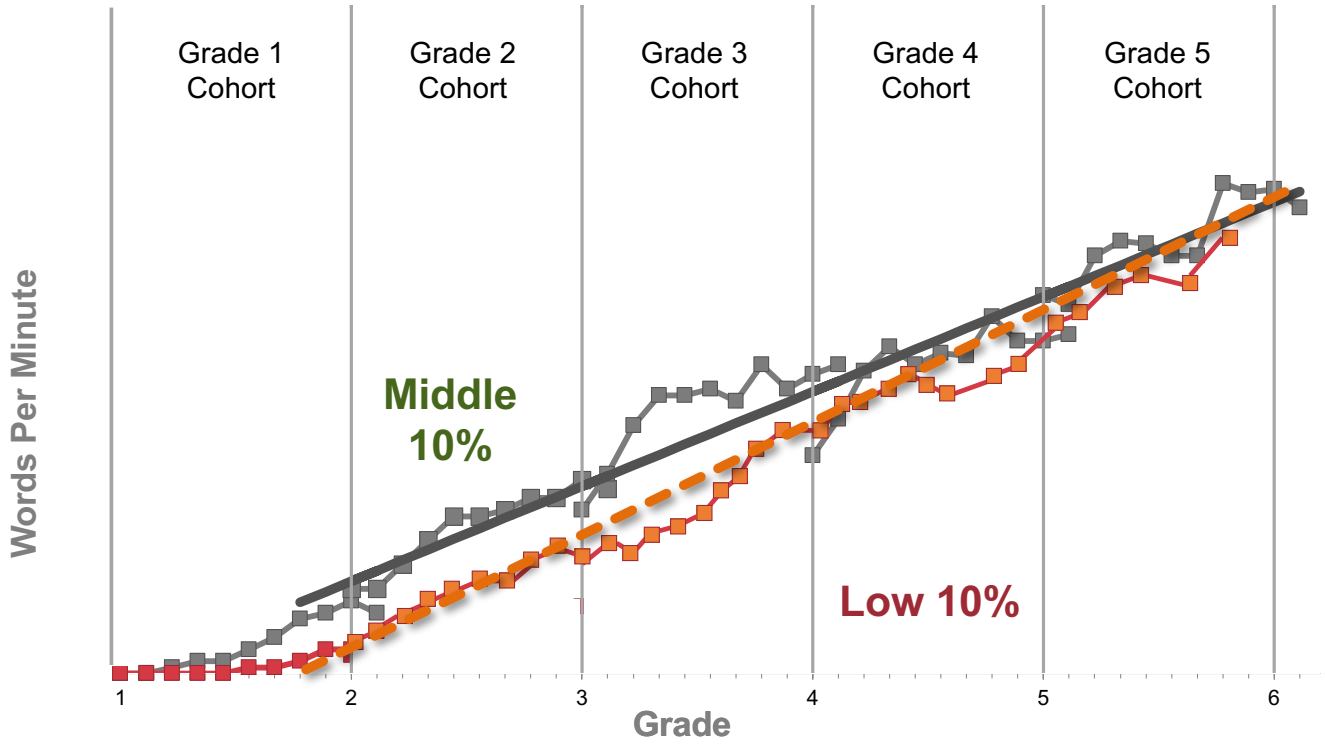
We CAN change reading outcomes for students.



Early Assessment and Identification: Assessment Tools

For use in a prevention-oriented model, assessments should:

- Assess critical skills
- Be efficient
- Be feasible for teachers to administer and score
- Be repeatable
- Have adequate technical adequacy
- Have research-based benchmarks and cut points

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Acadience Reading Pre-K: Preschool Early Literacy Indicators (PELI)

An individually administered assessment of essential skills for early literacy development in children 3 to 5 years of age designed to:

- Identify preschool children who may need additional support in acquiring early literacy skills;
- Monitor progress of children in acquisition of early literacy skills; and
- Evaluate child outcomes as a result of instruction and intervention.

PELI

Skills assessed:

- Alphabet knowledge
- Vocabulary-oral language
- Comprehension
- Phonological awareness

Features of PELI:

- Storybook format
- Untimed
- 10 alternate forms/books

PELI Research-Based Benchmarks and Cut Points: Composite Scores

		3–4 Year Olds			4–5 Year Olds		
Subtest	Status	BOY	MOY	EOY	BOY	MOY	EOY
PELI Language Index	Above	87+	109	119+	136+	148+	156+
	At	**62-86**	**87-108**	**100-118**	**114-135**	**132-147**	**143-155**
	Below	33-61	50-86	59-99	88-113	111-131	124-142
	Well Below	0-32	0-49	0-58	0-87	0-110	0-123
PELI Composite Score	Above	104+	140+	167+	200+	236+	256+
	At	**68-103**	**101-140**	**128-166**	**159-199**	**201-235**	**231-255**
	Below	35-67	59-100	85-127	115-158	160-200	195-230
	Well Below	0-34	0-58	0-84	0-114	0-159	0-194

PELI Research-Based Benchmarks and Cut Points: Subtest Scores

		3–4 Year Olds			4–5 Year Olds		
Subtest	Status	BOY	MOY	EOY	BOY	MOY	EOY
Alphabet Knowledge	Above	2+	6+	11+	16+	24+	25+
	At	**1**	**3-5**	**5-10**	**6-15**	**17-23**	**34-24**
	Below	0	1–2	2–4	2-5	8-16	14-22
	Well Below	–	0	0–1	0-1	0-7	0-13
Phonological Awareness	Above	–	2+	7+	9+	13+	15+
	At	–	**1**	**2-6**	**4-8**	**10-12**	**13-14**
	Below	–	0	0-1	1-3	4-9	9-12
	Well Below	–	–	–	0	0-3	0-8
Vocabulary – Oral Language	Above	13+	16 +	19 +	22+	25+	27+
	At	**8-12**	**12-15**	**14-18**	**18-21**	**21-24**	**23-26**
	Below	4–7	6–11	8–13	13-17	16-20	19-22
	Well Below	0–3	0–5	0–7	0-12	0-15	0-18
Comprehension	Above	10 +	14+	15+	16+	19+	19+
	At	**6-9**	**10-13**	**11-14**	**13-15**	**16-18**	**17-18**
	Below	2–5	5–9	7–10	10-17	12-15	14-16
	Well Below	0–1	0–4	0–6	0-9	0-11	0-13

PELI Research Base: Alternate-Form Reliability

Subtest/Composite Score	3–4 Year Olds (*N* = 46 – 162)	4–5 Year Olds (*N* = 154 – 366)
Alphabet Knowledge	.95 (.91–.97)	.94 (.90–.98)
Phonological Awareness	.81 (.64–.93)	.80 (.71–.84)
Vocabulary-Oral Language	.70 (.50–.83)	.75 (.62–.79)
Comprehension	.73 (.65–.79)	.66 (.62–.72)
PELI Language Index	.78 (.65–.86)	.79 (.72–.84)
PELI Composite Score	.88 (.85–.92)	.88 (.86–.91)

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PELI Research Base: Inter-scorer Reliability

PELI Subtest	*N*	First Scorer Mean	First Scorer *SD*	Second Scorer Mean	Second Scorer *SD*	Inter-scorer Reliability
Alphabet Knowledge	74	13.12	9.94	13.46	9.87	.96
Phonological Awareness	74	5.05	5.53	5.05	5.52	.96
Vocabulary-Oral Language	74	18.59	7.78	19.66	8.07	.90
Comprehension	74	12.04	5.73	12.67	5.70	.90
PELI Composite Score	74	150.41	72.27	156.39	73.50	.98

PELI Research Base: Predictive Validity with Acadience Reading K–6

Time of Year	Validity of AK with Acadience Reading LNF (*N* = 2,228)	Validity of PA with Acadience Reading FSF (*N* = 2,233)
Beginning of Year	.68	.56
Middle of Year	.76	.65
End of Year	.74	.66

Note: AK = Alphabet Knowledge. LNF = Letter Naming Fluency. PA = Phonological Awareness. FSF = First Sound Fluency.

PELI Research Base: Predictive Validity with CELF Preschool-2 and PPVT-4

Subtest/Composite at Time of Year	CELF CLI (*N* = 174)	PPVT-4 (*N* = 136)
Beginning of Year		
V-OL	.52	.72
Comp	.58	.70
PLI	.60	.77
Middle of Year		
V-OL	.56	.78
Comp	.46	.64
PLI	.57	.78
End of Year		
V-OL	.48	.67
Comp	.40	.62
PLI	.51	.72

Note: V-OL = Vocabulary-Oral Language. Comp = Comprehension. PLI = PELI Language Index. CELF = Clinical Evaluation of Language Fundamentals Preschool. CLI = Core Language Index. PPVT = Peabody Picture Vocabulary Test.

Validity: PELI Composite Score with Early Literacy Composite

PELI Composite Score at Time of Year	CELF CLI-AR (*N* = 168)	PPVT-AR (*N* = 85)
Beginning of Year	.74	.83
Middle of Year	.72	.85
End of Year	.65	.80

Note: CLI = Core Language Index. PPVT = Peabody Picture Vocabulary Test. AR = Acadience Reading

Decision Utility: PELI Composite with Acadience Reading Composite Score

	Benchmark	Cut Point
Sensitivity	.86	.77
Specificity	.74	.88
Negative Predictive Power	.94	.96
Positive Predictive Power	.54	.50
Accurate Classification	.77	.87
AUC	.87	.91

Decision Utility: PELI Language Index with PPVT

	Benchmark	Cut Point
Sensitivity	.63	.74
Specificity	.80	.96
Negative Predictive Power	.81	.95
Positive Predictive Power	.62	.77
Accurate Classification	.74	.92
AUC	.81	.93

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Study: Background

- The scores on Acadience Reading K–6 observed early in kindergarten show floor effects.
- While students may score low on subtests, it is unlikely they are all of equal skill levels.
- The PELI is an assessment meant to be given to younger students and focus on earlier literacy indicators.
- The information provided by the PELI can provide a useful method for distinguishing among those students who score very low on Acadience Reading K–6 in Kindergarten.

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Study: Purpose and Research Questions

- The Examination of PELI in kindergarten sought to answer three focal questions:
  - Are PELI scores more normally distributed in kindergarten than Acadience Reading Composite Scores (RCS)?
  - Is the PELI significantly and strongly related to the concurrent RCS?
  - Does the PELI add predictive power to later reading skills, above and beyond the RCS?

Study: Measures

- Acadience Reading K–6 Kindergarten
  - Letter Naming Fluency*
  - First Sound Fluency*
  - Phoneme Segmentation Fluency*
  - Nonsense Word Fluency*
  - Reading Composite Score
- Acadience Reading Pre-K: PELI
  - Alphabet Knowledge*
  - Vocabulary-Oral Language**
  - Comprehension**
  - Phonological Awareness*
  - Language Index
  - PELI Composite Score

* Measures included in Reading/PELI Composite score. ** Measures included in Language Index.

Study: Participants

- 136 kindergarten students in five schools from two public school districts in Northeastern United States
  - Small city
  - Rural: fringe
- Demographics

White	Black or African American	Hispanic or Latino	Asian	American Indian or Alaska Native	Native Hawaiian or Other Pacific Islander	Other	Two or More Races	Free/ Reduced Lunch
62%	7%	25%	4%	0%	0%	0%	2%	70%
91%	3%	2%	0%	0%	0%	0%	4%	59%

Study: Design

- All students completed their usual benchmark assessment of Acadience Reading K-6 at the beginning, middle, and end of the year.
- Shortly after both beginning- and middle-of-year benchmark assessments students were given a pre-chosen PELI book.
    - Both PELI books were chosen from the 3/4-year-old progress monitoring materials to minimize chances that students previously saw the books.
- PELI scores were examined with an eye towards distinguishing struggling students and predictive validity of later reading success.

Study: Design

Time of Year	Measures Administered
Beginning of Kindergarten Year	PELI: • Book: *Getting a New Puppy* Acadience Reading K–6: • Letter Naming Fluency • First Sound Fluency
Middle of Kindergarten Year	PELI: • Book: *Grandma's Birthday* Acadience Reading K–6 • Letter Naming Fluency • First Sound Fluency • Phoneme Segmentation Fluency • Nonsense Word Fluency
End of Kindergarten Year	Acadience Reading K–6 • Letter Naming Fluency • Phoneme Segmentation Fluency • Nonsense Word Fluency

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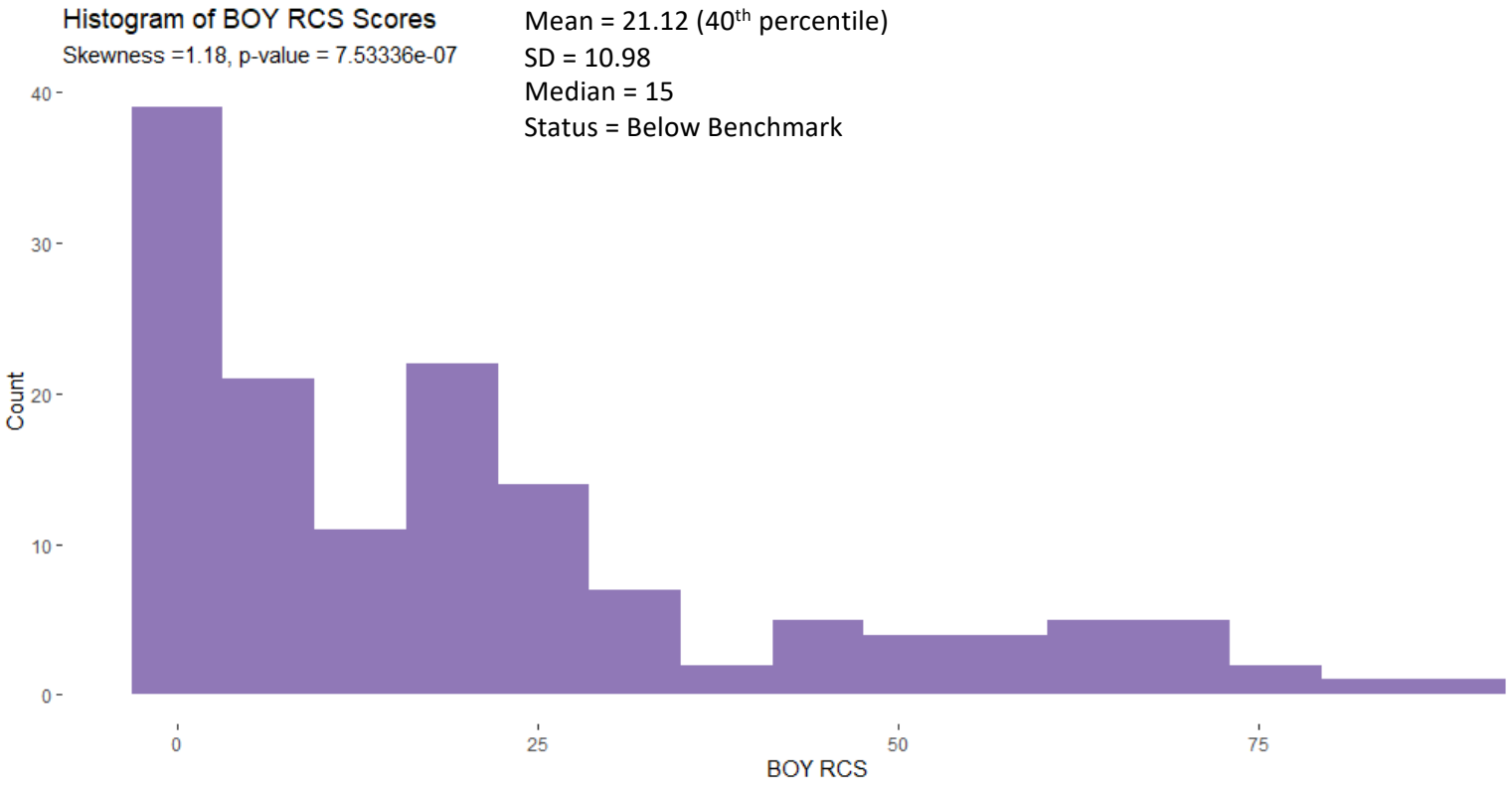
Study: Analyses

- Descriptive Statistics
  - Means, standard deviations, distribution of scores
- Correlations
  - PELI – Acadience Reading K–6
- Logistic Regression
  - ROC curve analyses

BOY–MOY Results:
Distribution of K RCS Scores: BOY



Mean = 21.12 (40th percentile)
SD = 10.98
Median = 15
Status = Below Benchmark

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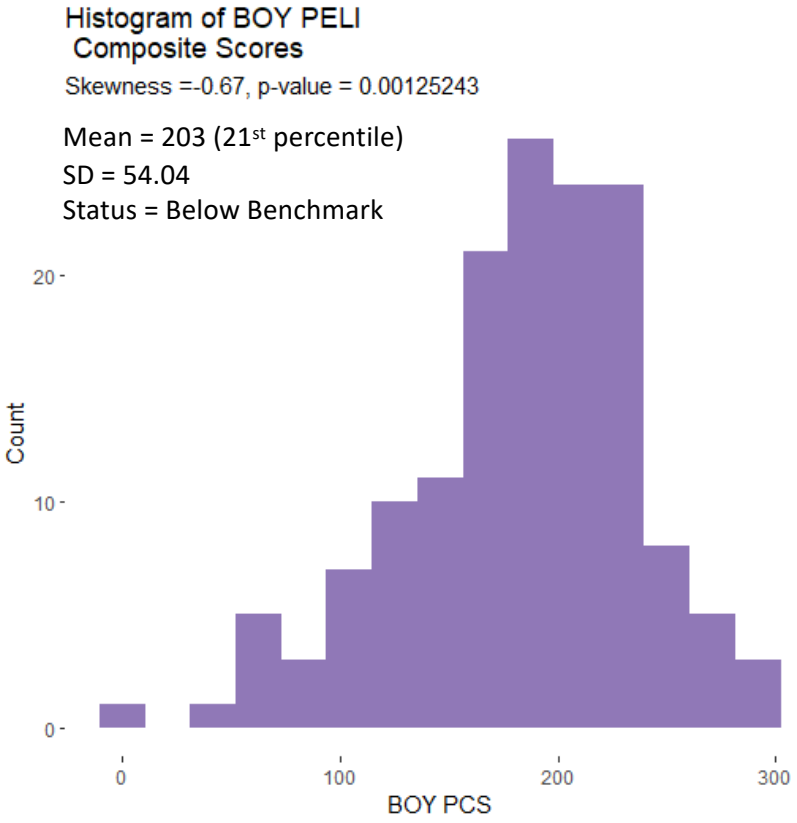
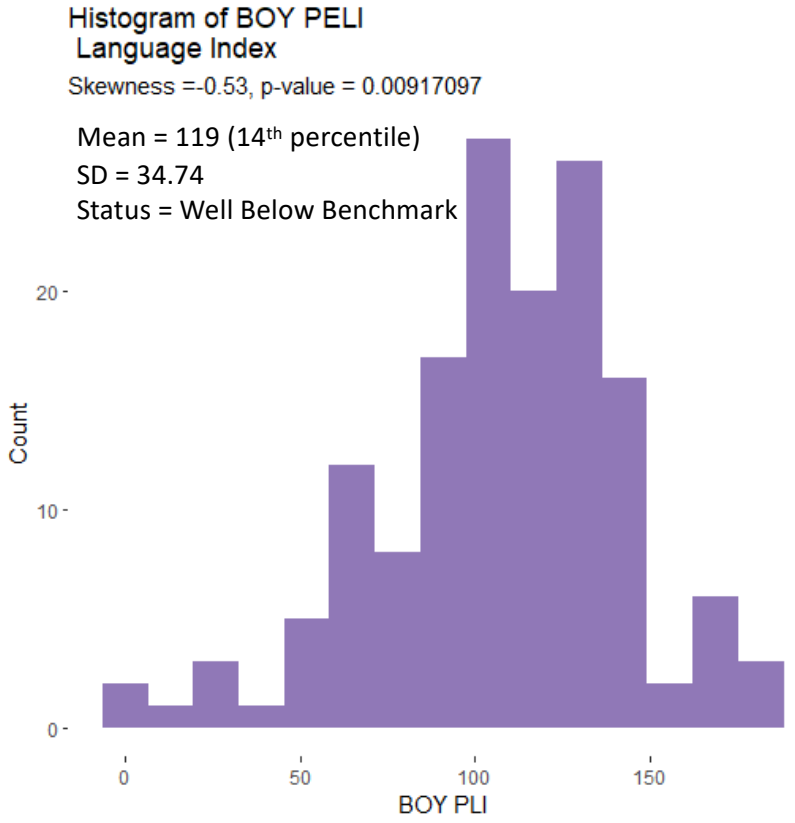
BOY–MOY Results:
Distribution of PLI and PCS Scores: BOY



Mean = 203 (21st percentile)
SD = 54.04
Status = Below Benchmark



Mean = 119 (14th percentile)
SD = 34.74
Status = Well Below Benchmark

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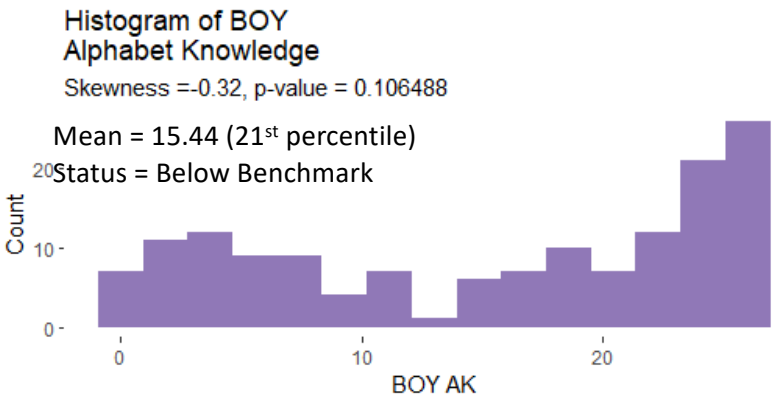
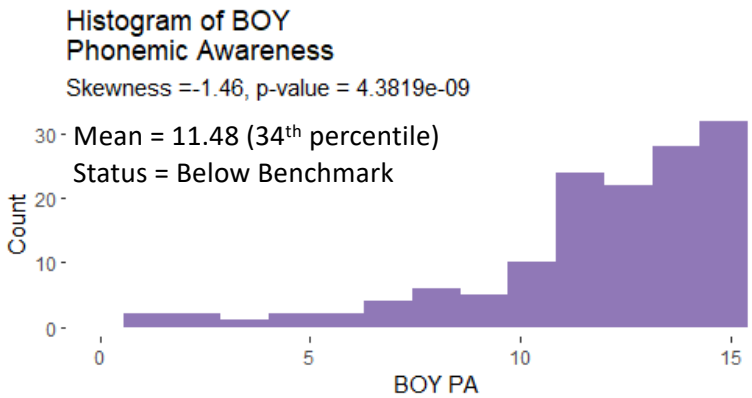
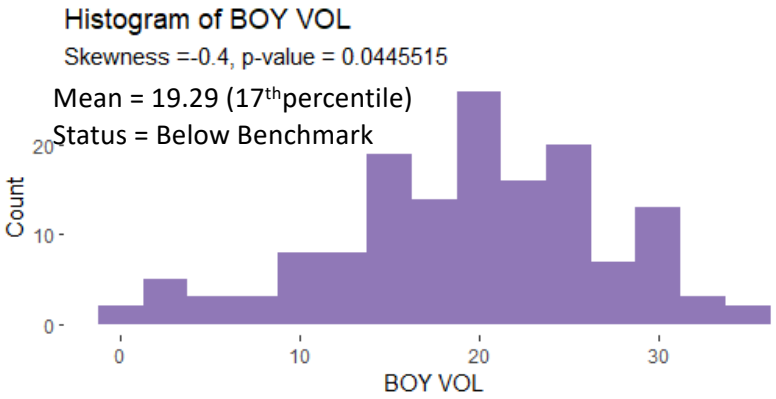
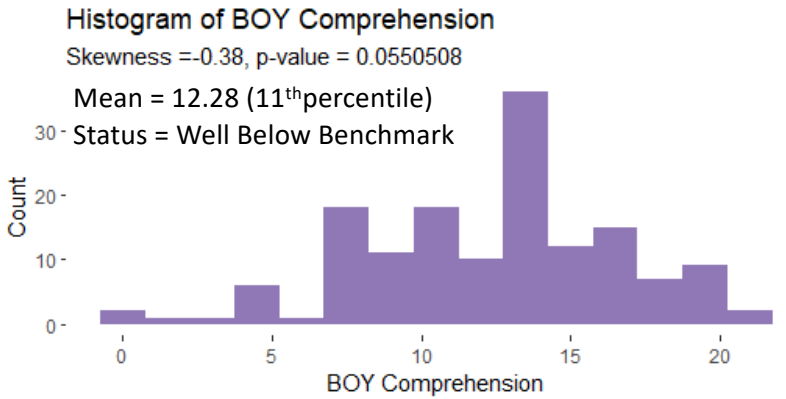
BOY–MOY Results:
Distribution of PELI Subtest Scores: BOY









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BOY–MOY Results: PELI and RCS Correlations

Subtest	RCS	AK	V-OL	Comp	PA	PLI
RCS	**1.00**					
AK	**.71**	1.00				
V-OL	**.25**	.17	1.00			
Comp.	**.25**	.18	.57	1.00		
PA	**.35**	.33	.41	.59	1.00	
PLI	**.28**	.20	.91	.85	.55	1.00
PCS	**.53**	.57	.78	.79	.77	.88

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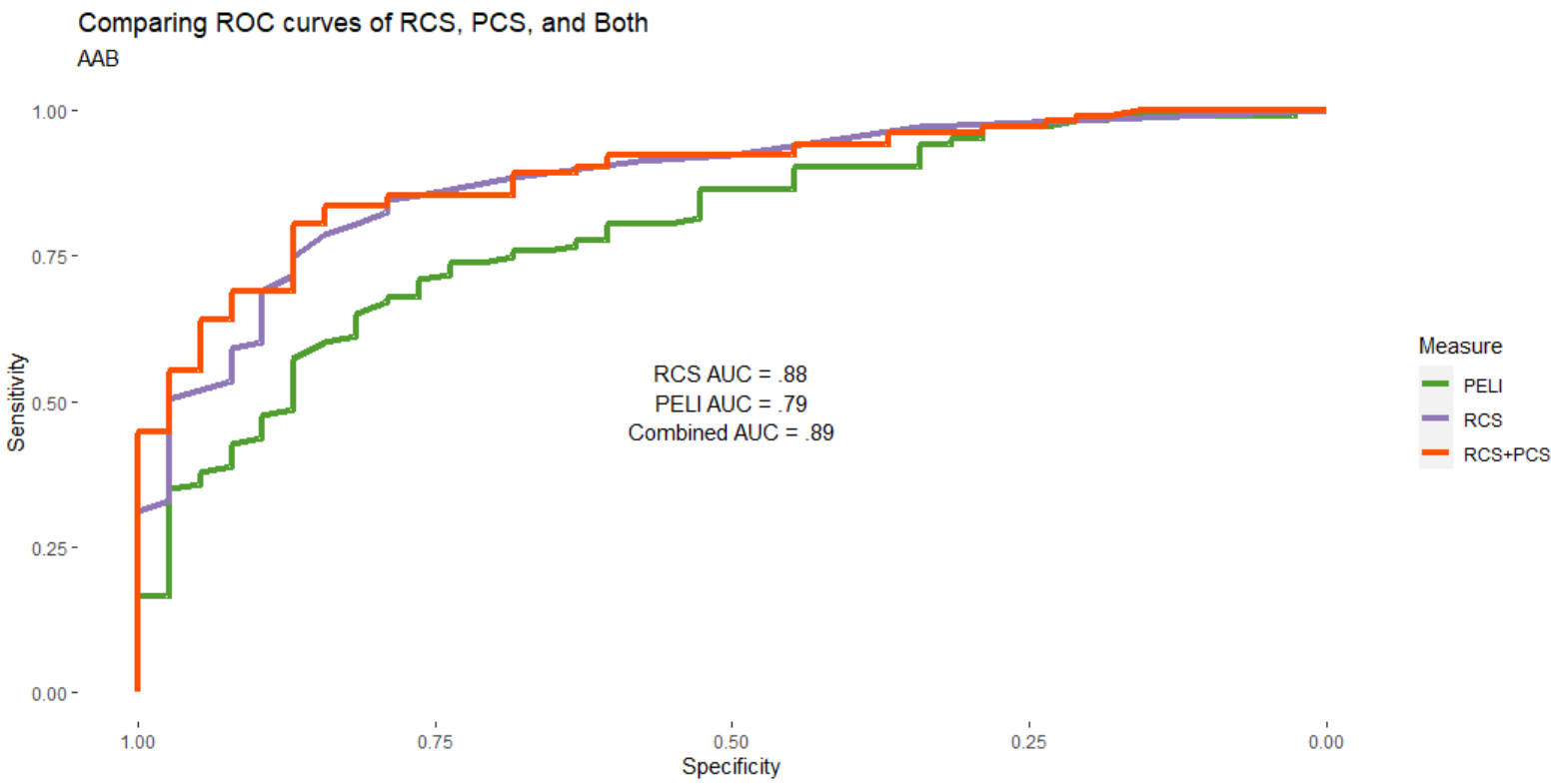
BOY–MOY Results: Predicting Students Who Meet the Benchmark



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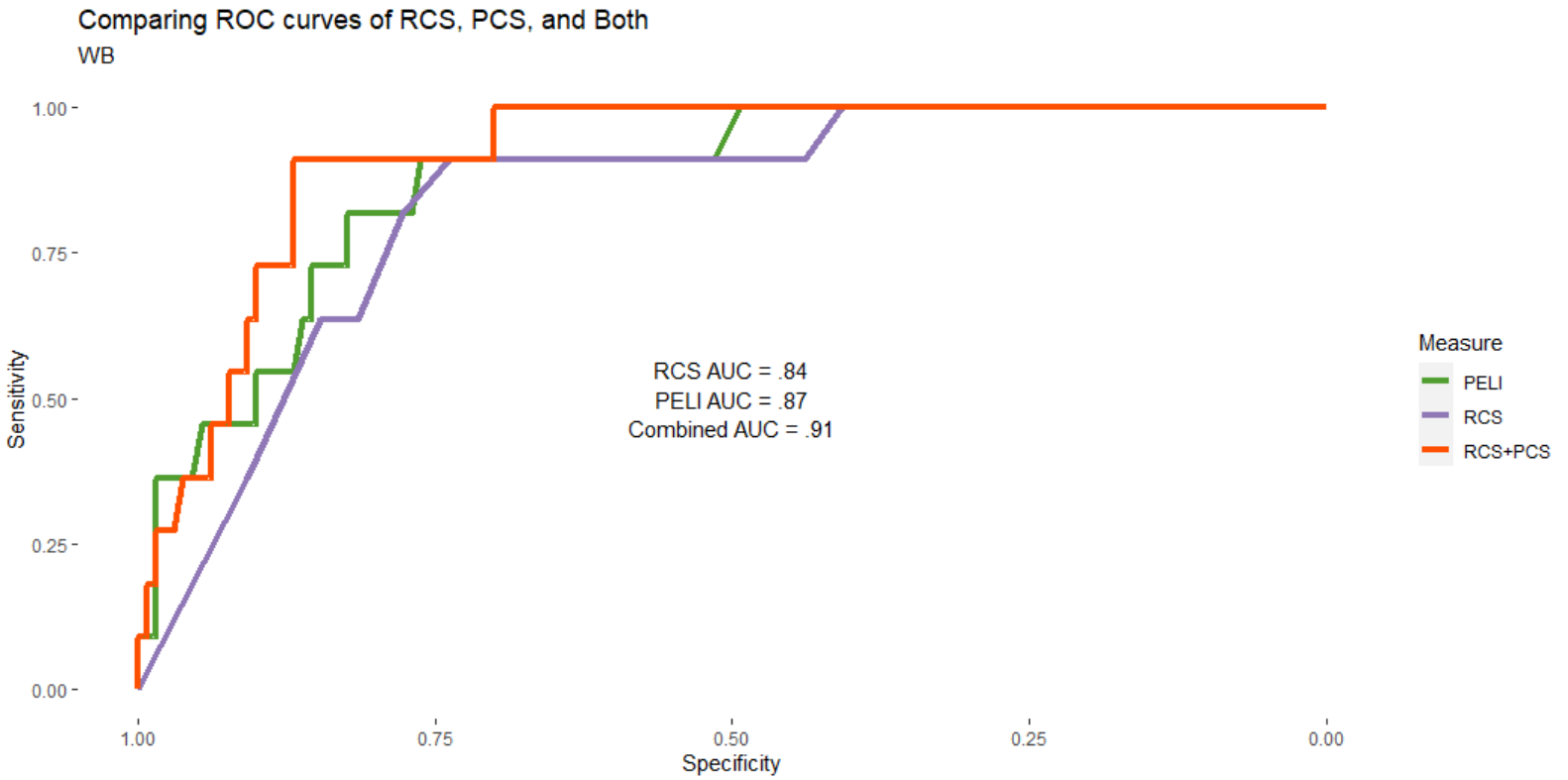
BOY–MOY Results: Predicting Students Who Are at Risk



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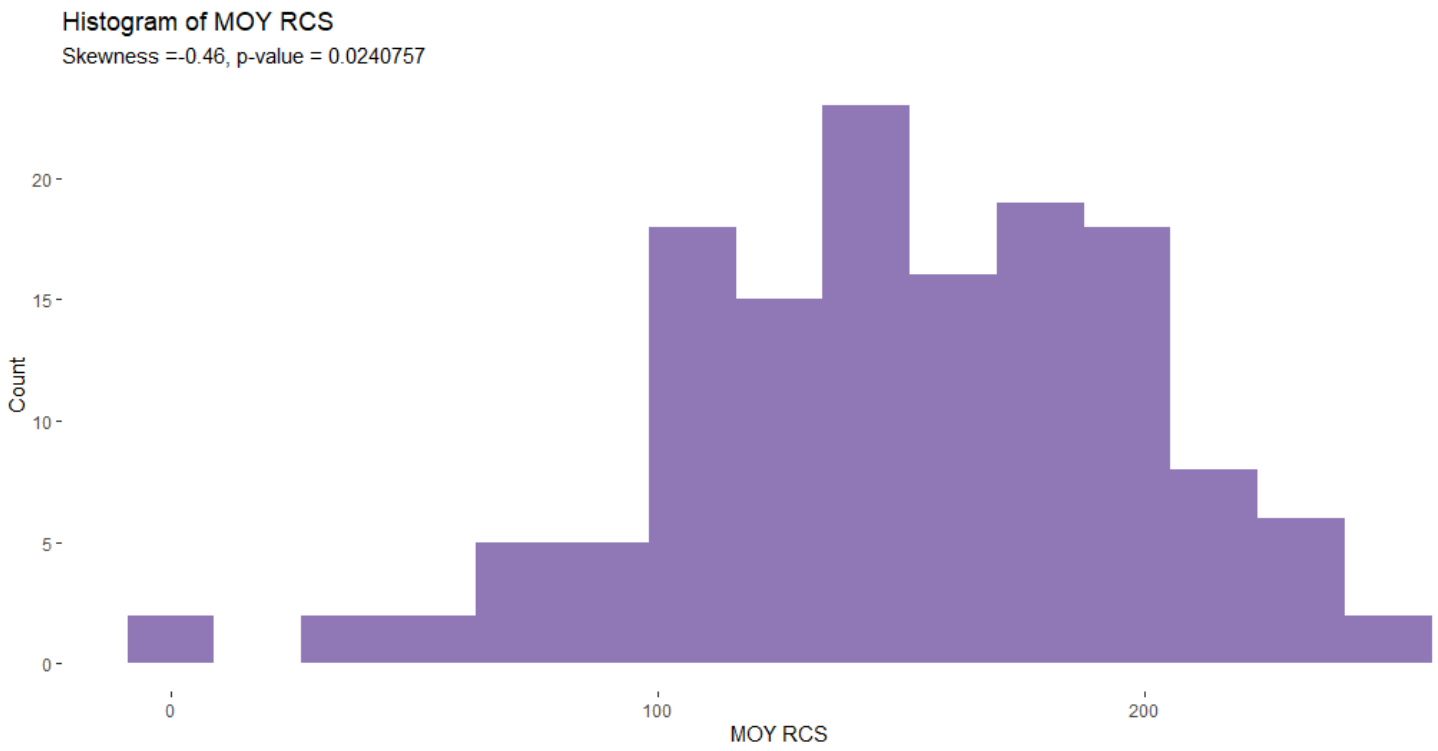
MOY–EOY Results:
Distribution of K RCS Scores: MOY



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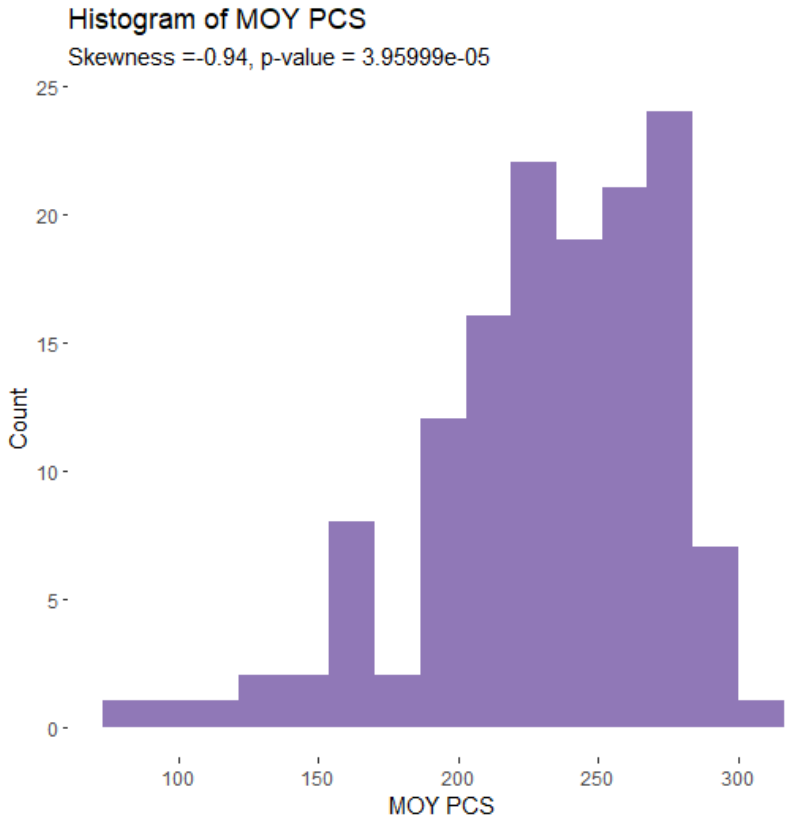
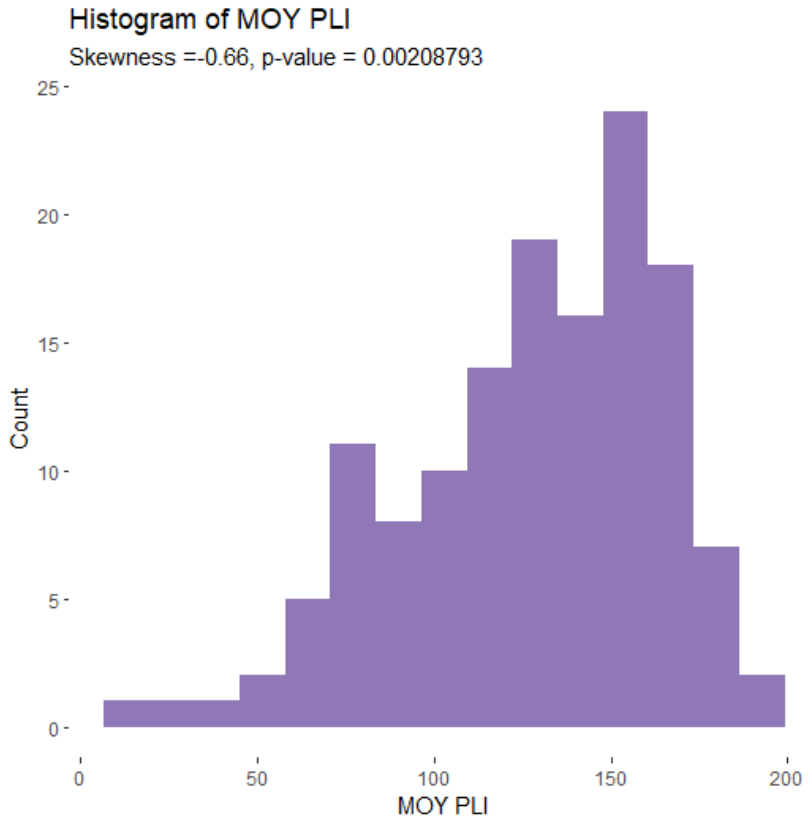
MOY–EOY Results:
Distribution of PLI and PCS Scores: MOY





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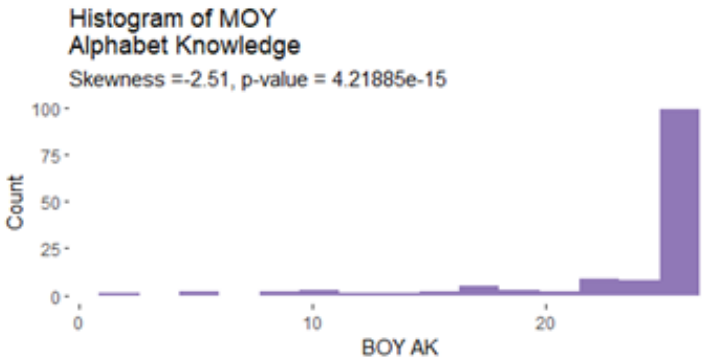
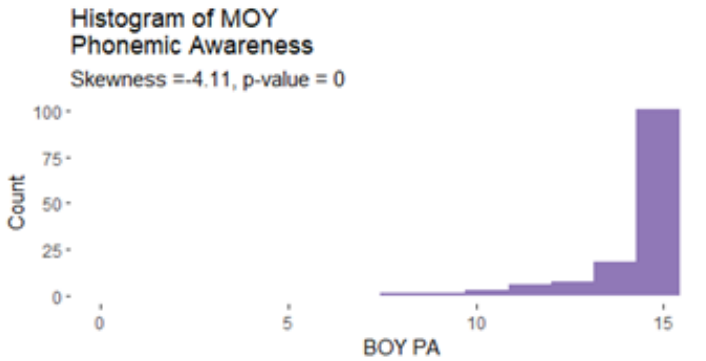
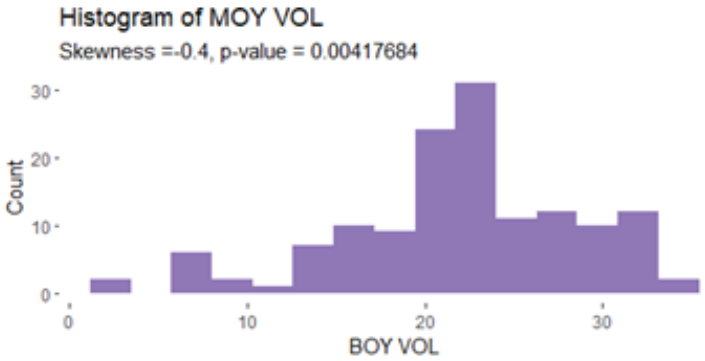
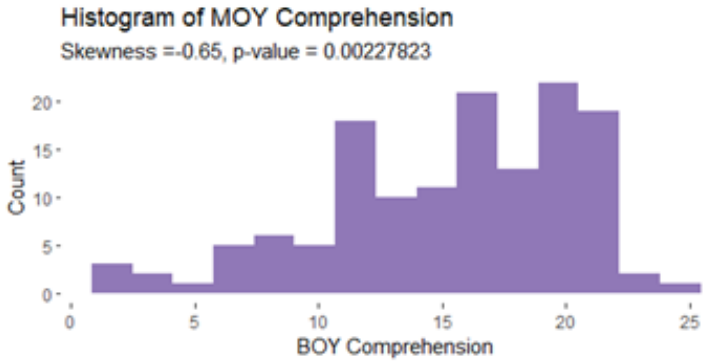
MOY–EOY Results:
Distribution of PELI Subtest Scores: MOY









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MOY–EOY Results: PELI and RCS Correlations

Subtest	RCS	AK	VOL	Comp.	PA	PLI
RCS	**1.00**					
AK	**.62**	1.00				
VOL	**.32**	.20	1.00			
Comp.	**.28**	.14	.64	1.00		
PA	**.36**	.42	.37	.32	1.00	
PLI	**.33**	.19	.91	.91	.38	1.00
PCS	**.48**	.46	.87	.85	.59	.95

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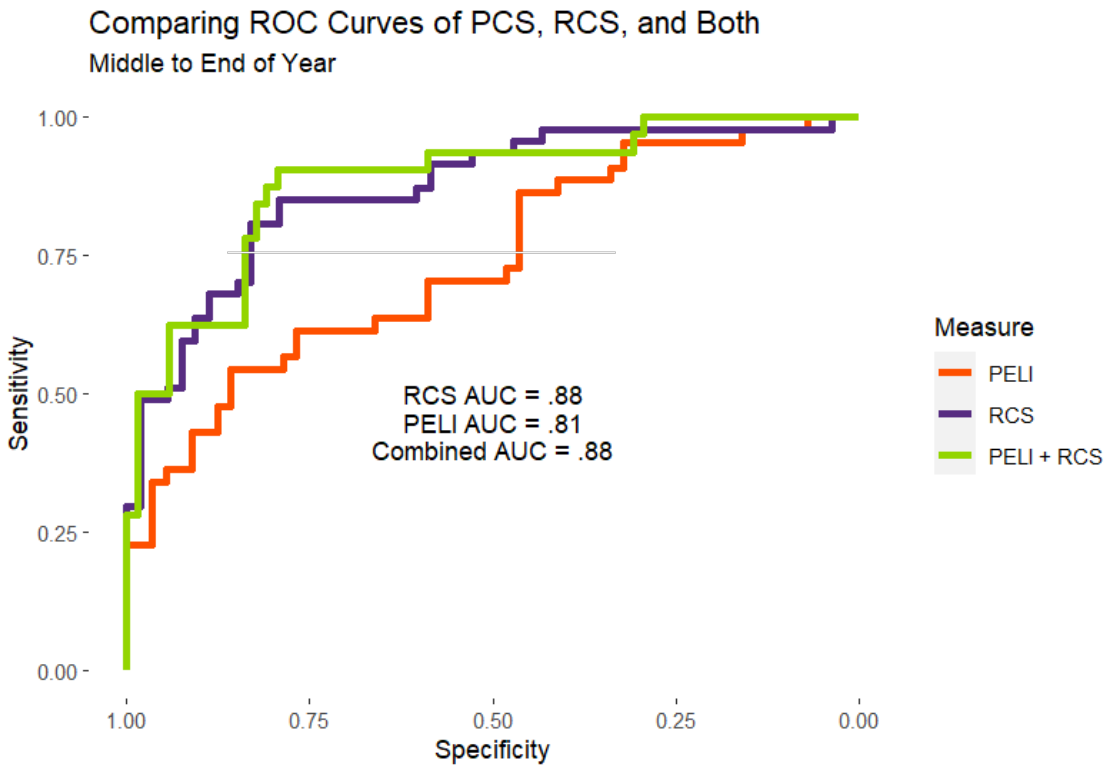
MOY-EOY Results: Predicting Students Who Meet the Benchmark



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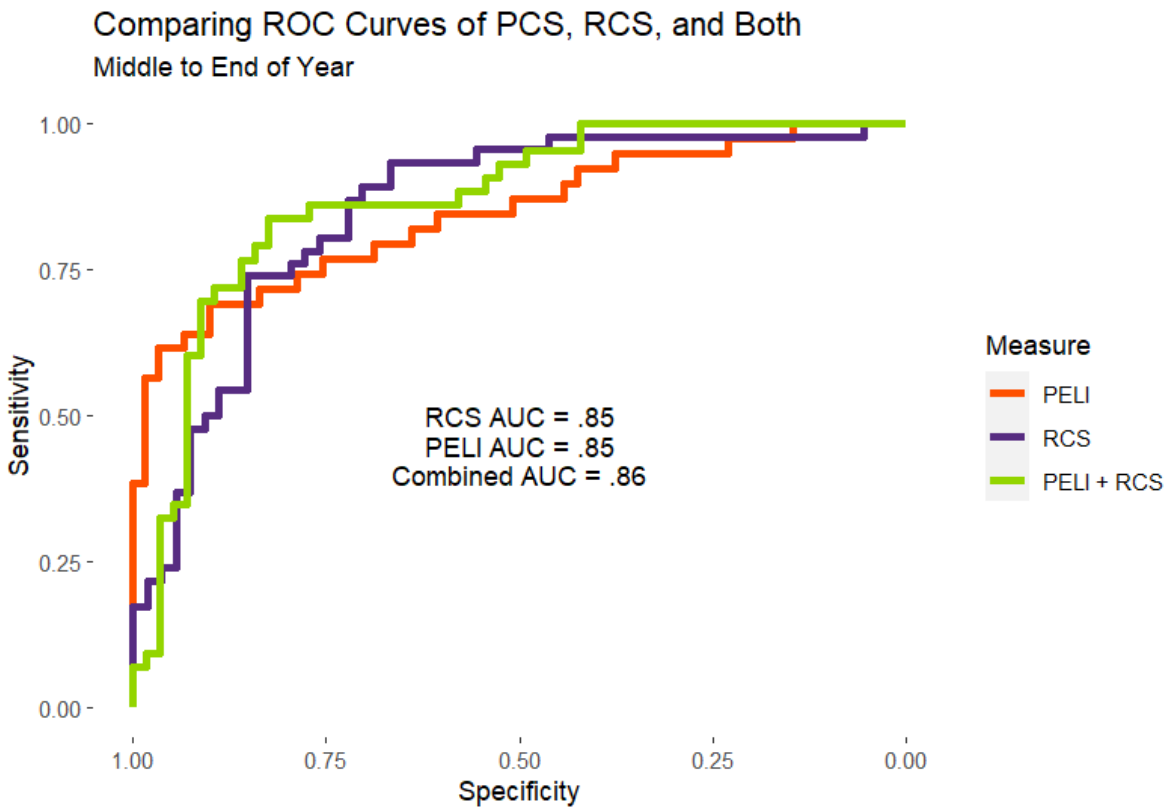
MOY-EOY Results: Predicting Students Who Are at Risk



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Conclusions

- PELI in kindergarten is an effective tool for teasing apart students who score near the bottom of the distribution in the beginning of the school year.
  - PELI in kindergarten was moderately correlated with the RCS, suggesting a valid assessment of early literacy.
  - PELI was effective at BOY at predicting later early literacy skills, especially for those students most at risk for reading difficulties.

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Implications for Practice

- Use of the PELI at the beginning of kindergarten for students who score below/well below benchmark on Acadience Reading K–6 may be useful in instructional planning:
  - Determining which students need additional instructional support to make adequate progress and attain MOY and EOY benchmarks
  - Providing an assessment of vocabulary-oral language and listening comprehension skills

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Discussion

- Modest correlations with Acadience Reading K–6
  - The PELI provides an assessment of language skills whereas Acadience Reading does not.
  - It is possible that correlations would be higher with a measure of early literacy that includes an assessment of language skills.
- Roc curve analyses: PELI adds little to prediction at MOY.
  - The AUC might be higher with an outcome measure that includes measures of language.

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Study Limitations

- Results are limited to relatively small sample.
- No measure of language skills in outcome measure.

Future Research

- Replicate study with broader samples of students, additional outcome measures.
- Follow students longitudinally to explore prediction from Vocabulary-Oral Language and Comprehension (PELI Language Index) in kindergarten to later reading comprehension.
- Examine linkages from PELI in preschool to kindergarten and beyond.
- Examine benchmarks for PELI for beginning of kindergarten.

Conclusion: The Promise of Prevention

- We can identify risk factors and protective factors for reading disabilities including dyslexia.
- Academic outcomes improve and impacts are large for students who are identified and receive intervention in earlier grades.
- Risk for dyslexia may be reduced through early identification and intervention on the essential early literacy and reading skills.

Catts & Petscher, 2018; Foorman, & Torgesen, 2001; Moats, 2018; Pennington et al., 2021

A Prevention-Oriented Model of Dyslexia

A prevention-oriented model

1. Start early
2. Focus on essential early literacy and reading skills
3. Conduct ongoing assessment:
   a. Assess all students periodically
   b. Monitor progress of some students more frequently
4. Examine instructional effectiveness

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Thank You!

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References

- Al Otaiba, S., Allor, J. H., Baker, K., Conner, C., Stewart, J., & Mellado de la Cruz, V. (2019). Teaching phonemic awareness and word reading skills: Focusing on explicit and systematic approaches. *Perspectives on Language and Literacy, 45*(3), 11-16.
- Catts, H.W., & Hogan, T. (2021). Dyslexia: An ouce of prevention is better than a pound of diagnosis and treatment. *Reading League Journal, 2, 6–13.*
- Catts, H.W., & Petscher, Y. (2021). A cumulative risk and resilience model of dyslexia. *Journal of Learning Disabilities,* https://doi.org/10.1177/0022219421103706 2
- Deno, S. (2016). Data-based decision making. In S. Jimerson, M. Burns, & A. VanDerHeyden (Eds.), *Handbook of Response to Intervention: The science and practice of mulit-tiered systems of support* (pp. 9–28). New York, NY: Springer.
- Elliott, J.G. (2020). It's time to be scientific about dyslexia. *Reading Research Quarterly, 55*(1), 61-75. doi: 10.1002/rrq.333.
- International Dyslexia Association (2002). *Definition of dyslexia*. https://dyslexiaida.org/definition-of-dyslexia/

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References

- Kaminski, R. (2021, October 5). Screening for dyslexia: Not a one and done event. https://www.voyagersopris.com/blog/edview360/2021/10/05/screening-for-dyslexia-not-a-one-and-done-event-by-dr.-ruth-kaminski-acadience-learning
- Moats, L. (2018, October 4). Its dyslexia: What's a teacher to do? https://www.voyagersopris.com/blog/edview360/2018/10/04/its-dyslexia
- Norton, E.S., & Wolf, M. (2012). Rapid automatized naming (RAN) and reading fluency: Implications for understanding and treatment of reading disabilities. *Annual Review of Psychology, 63*, 427–452. doi: 10.1146/annurev-psych-1207-100431
- Seidenberg, M. (2017). *Language at the speed of sight: How we read, why so many can't, and what can be done about it*. Basic Books.
- Stoiber, K.C., & Gettinger, M. (2016). Multi-tiered systems of support and evidence-based practices. In S. Jimerson, M. Burns, & A. VanDerHeyden (Eds.), *Handbook of Response to Intervention: The science and practice of mulit-tiered systems of support* (pp. 121–142). New York, NY: Springer.