

UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL
FRANK PORTER GRAHAM CHILD DEVELOPMENT INSTITUTE

2019-2020 EVALUATION OF LITERACY MATRIX



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Submitted to University of Florida Lastinger Center



FRANK PORTER GRAHAM
CHILD DEVELOPMENT INSTITUTE



EXECUTIVE SUMMARY

Launched in 2018, the Literacy Matrix is a literacy-focused online professional development system that builds educators' knowledge of how to implement evidence-based reading instruction. The Literacy Matrix is especially focused on helping teachers support students not yet meeting grade-level expectations. The Literacy Matrix is comprised of seven strands: The Big Picture, Phonological Awareness, Decoding I, Decoding II, Fluency, Vocabulary, and Comprehension. Each strand includes foundational content and practical strategies in the areas of assessment, instruction, and intervention. Teachers are given opportunities to apply research-based strategies and demonstrate evidence of their learning for review and feedback.

In 2019-20, 498 teachers in 17 Florida school districts were invited to enroll in the Literacy Matrix. Of the 331 teachers who enrolled, 37% completed one to six strands and 63% completed all strands. Before and after each strand, teachers completed assessments of knowledge. Across content strands, teachers' knowledge grew by over 80%, with effect sizes averaging above 2.8. Teachers were required to meet 80% mastery of content as they advanced through the Literacy Matrix. At pre-assessment, 9% of teachers displayed content mastery, whereas at post-assessment, 98% displayed mastery. This report will detail additional information describing the Literacy Matrix, its teacher users, and teachers' perceptions of the Literacy Matrix.

THE LITERACY MATRIX

Approved by Just Read, Florida! as a route to Reading Endorsement, the Literacy Matrix is a competency-based online professional development tool for teachers to learn foundational knowledge and skills for effective reading instruction. Developed using philanthropic dollars from the James Patterson Foundation, Florida Education Foundation, and Helios Education Foundation, the Literacy Matrix is designed to increase the capacity of individual teachers to teach reading effectively, diagnose reading problems, and intervene appropriately using evidence-based methods.



The Literacy Matrix is powered by a custom-built Professional Learning Management System, Flamingo Learning, and offered online. Teachers progress through seven strands, as shown in Figure 1 below: The Big Picture, Phonological Awareness, Decoding I, Decoding II, Fluency, Vocabulary, and Comprehension. Within each strand, teachers have opportunities to build foundational knowledge, learn how to administer and interpret student assessments, enhance their instructional practices, and provide interventions to students not yet meeting grade-level expectations. Before the COVID-19 pandemic, teachers completed practicum activities to practice their skills with students in their classroom. When schools closed due to COVID-19, the Literacy Matrix team quickly created an alternative solution, case studies, which helped teachers apply their knowledge and receive feedback from Literacy Matrix experts.

LITERACY MATRIX

The Big Picture	Phonological Awareness	Decoding I	Decoding II	Fluency	Vocabulary	Comprehension
Foundations	Foundations	Foundations	Foundations	Foundations	Foundations	Foundations
Assessment	Assessment	Assessment	Assessment	Assessment	Assessment	Assessment
Instruction	Instruction	Instruction	Instruction	Instruction	Instruction	Instruction
Intervention	Intervention	Intervention	Intervention	Intervention	Intervention	Intervention
	Practicum	Practicum	Practicum	Practicum	Practicum	Practicum

Figure 1. Literacy Matrix Strands

TEACHERS BY THE NUMBERS

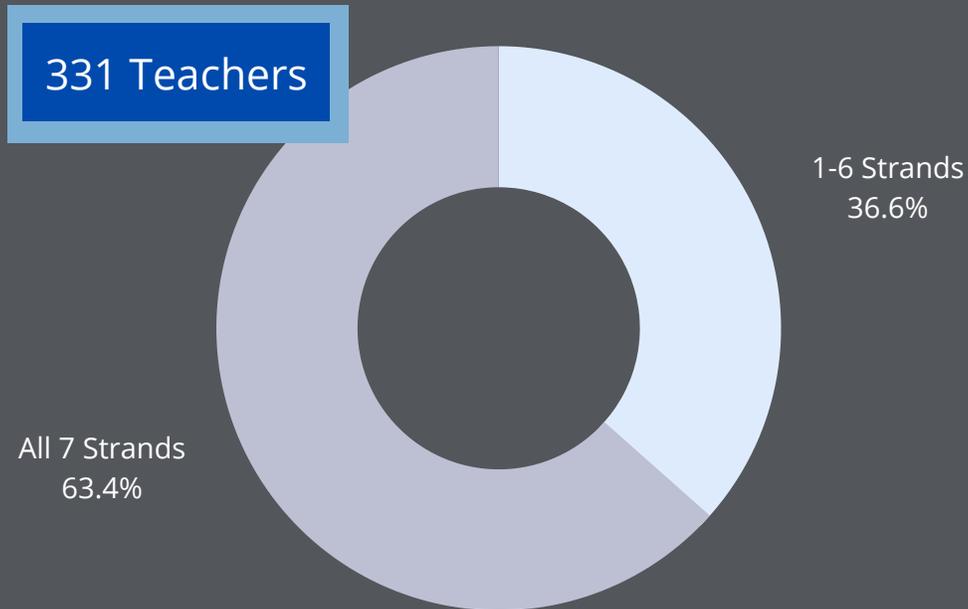


Figure 2. Strand Completion (November 2019-December 2020)

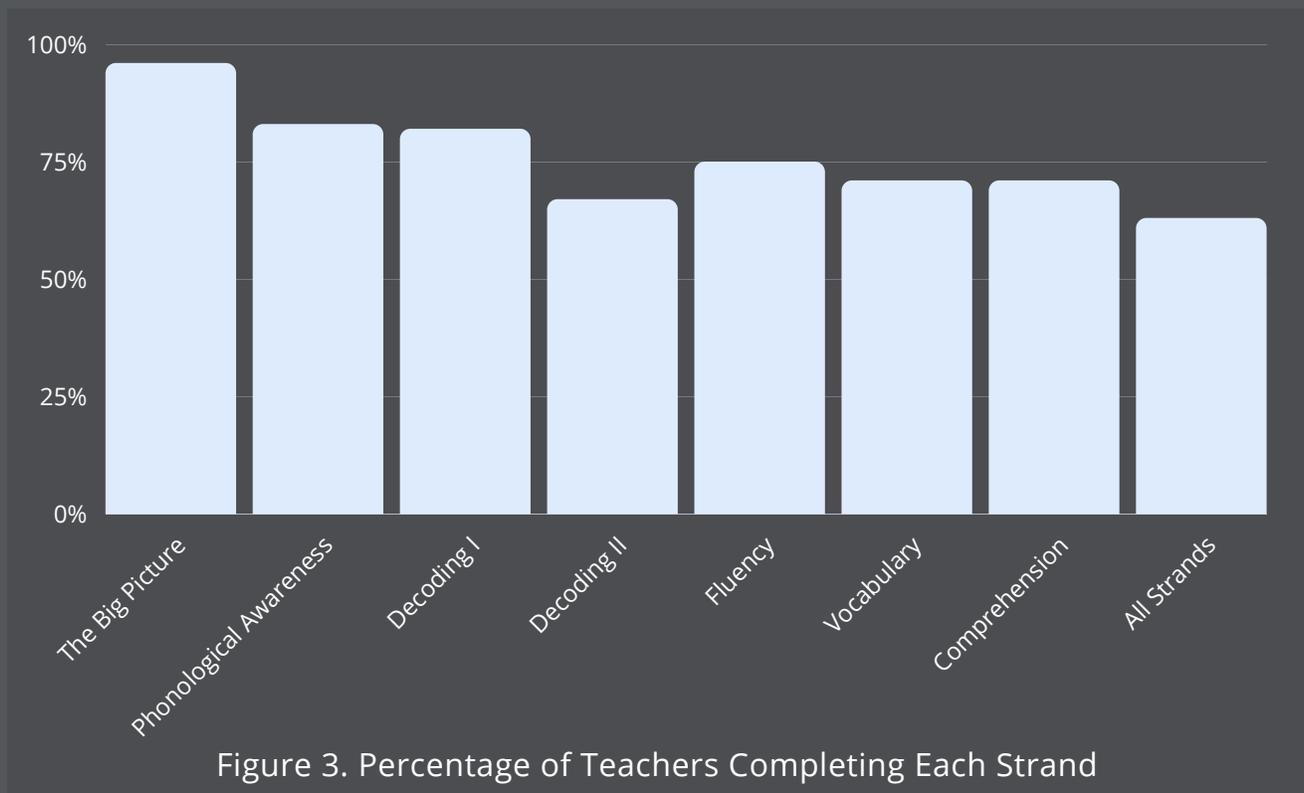


Figure 3. Percentage of Teachers Completing Each Strand

TEACHER GROWTH

Teachers began the Literacy Matrix in November 2019 and were given until the beginning of December 2020 to complete modules and case studies. For teachers who completed the pre-assessment and post-assessment for each strand, teachers' knowledge of reading content areas showed large growth. Across content strands (excluding The Big Picture, which was meant to provide an overview), teachers' average knowledge gain was 35 points, growth percentage (or growth rate over time) was 82%, and Cohen's d (or effect size) was 2.8 (see Figure 4). Mastery, or the percent of teachers with a score above 80, increased from less than 10% at pre-assessment to nearly 100% of teachers at post-assessment. Details by content strand are shown in Table 1.

Knowledge Gain =
35 points

Growth Percentage =
82%

Cohen's d =
2.84

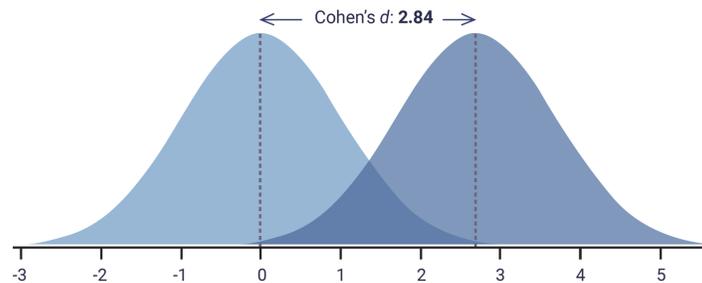


Figure 4. Average Cohen's d

Table 1. Sample Sizes (n), Means (M), Standard Deviations (SD), Mastery (% > 80), and Effect Sizes (Cohen's d) by Strand for Teachers Completing Pre- and Post-Assessments

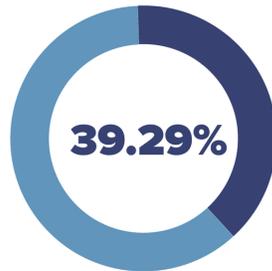
Strand	Sample	Pre-assessment			Post-assessment			Cohen's d
	n	M	SD	Mastery	M	SD	Mastery	
Phonological Awareness	276	55.60	16.58	5.80	87.25	8.28	98.58	2.36
Decoding I	270	58.63	17.84	14.33	90.69	10.47	95.64	2.17
Decoding II	223	54.62	17.94	8.33	95.02	6.62	98.21	3.00
Fluency	247	62.57	16.71	16.91	92.31	7.54	97.20	2.25
Vocabulary	234	50.90	13.80	3.10	94.85	6.85	98.72	3.99
Comprehension	234	59.15	13.70	6.61	94.04	6.52	99.15	3.27
<i>Average across Strands</i>	247	56.91	16.10	9.18	92.36	7.71	97.92	2.84

MORE ABOUT THE TEACHERS

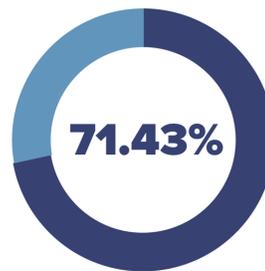
Of the teachers who completed at least one strand ($n = 335$), 225 teachers completed a demographic survey. As shown in Figure 5, teachers reported over 14 years of total teaching experience. Most (71%) had experienced a traditional teacher preparation program, where they had majored in education in college. About a third (39%) had attained a master's degree. Teachers generally taught early elementary grades.



Education
(has Master's degree)



Teacher preparation
(traditional)



Grade Level Teaching

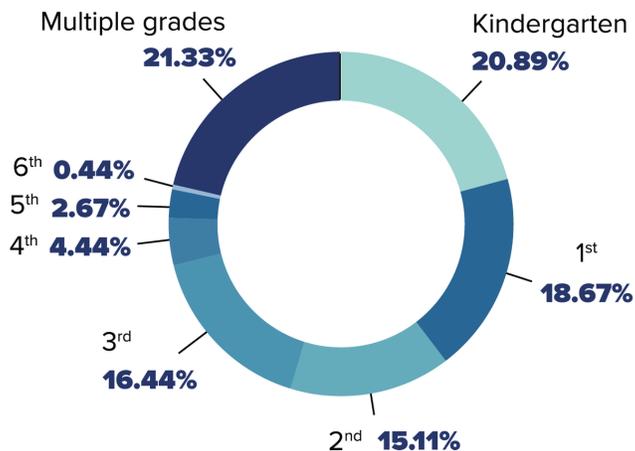


Figure 5. Teacher Demographic Information

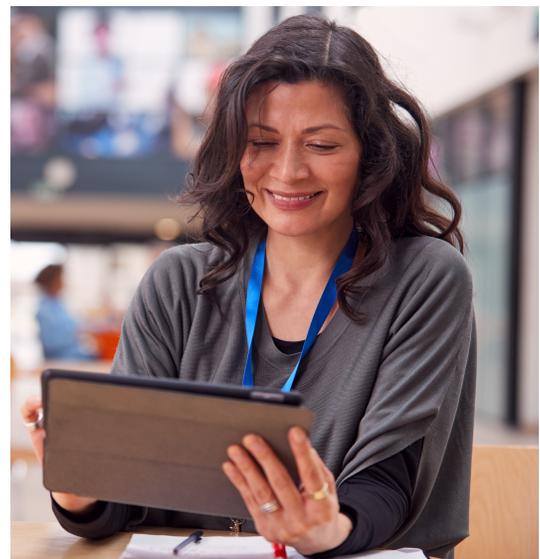
POSITIVE TEACHER FEEDBACK

Of the teachers who completed at least one strand ($n = 335$), 227 teachers completed a survey about their perceptions of the Literacy Matrix. As shown in Table 2, teachers rated various components of the Literacy Matrix with scores averaging between 4 (*agree*) and 5 (*strongly agree*). Notably, teachers strongly agreed that the content of the Literacy Matrix is important for beginning readers who struggle with reading.

Table 2. Teacher Perceptions of the Literacy Matrix

	<i>M</i>	<i>SD</i>
The content is important for struggling beginning readers.	4.71	0.55
I learned new teaching strategies.	4.70	0.55
I learned new content.	4.66	0.60
This PD will be useful to me in my role.	4.65	0.59
I have used or will use assessments and/or strategies with students.	4.55	0.70
This method of professional development meets my needs.	4.54	0.72
I shared or will share content or strategies.	4.52	0.74
I would recommend the Literacy Matrix to another teacher.	4.50	0.82
I plan to use the printable resources.	4.50	0.74

I strongly feel that all elementary teachers should be required to complete this program. I am a reading coach and learned so much about teaching reading and have been newly inspired to help every student reach his or her fullest potential as a reader.



SPECIFIC POSITIVE FEEDBACK

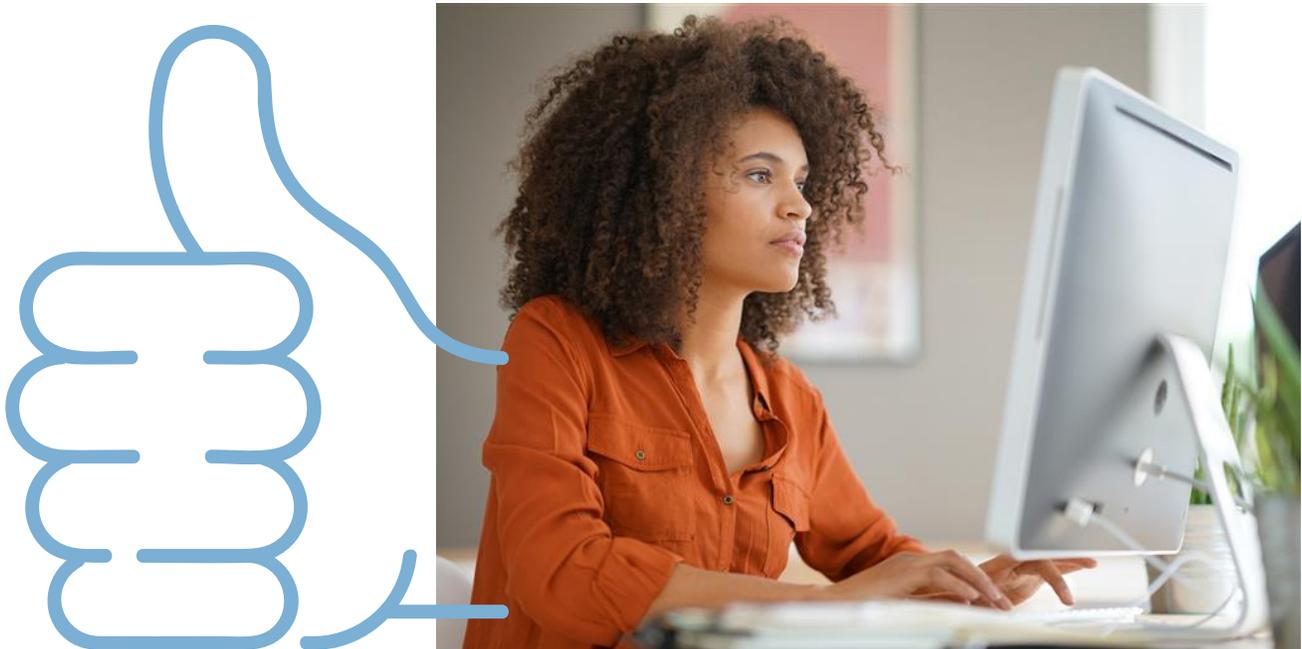
Of the teachers who completed the perceptions survey ($n = 227$), 168 teachers provided open-ended feedback about features of the Literacy Matrix they liked. Teachers frequently gave multiple responses, and broad categories of features they liked included *content* and *features and support*.

Content:

- Video examples of teachers working with students (42%)
- Print resources (21%), including transcripts (6%)
- Interactive activities (13%)

Features and Support:

- Ease of use (20%)
- Self-paced virtual format (18%)
- Technological features (15%)
- Staff support (10%)



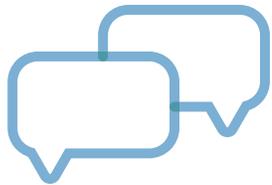
AREAS OF GROWTH & ENHANCEMENTS

Of the teachers who completed the perceptions survey ($n = 227$), 147 teachers provided open-ended feedback about features of the Literacy Matrix they would like to see improved. Teachers frequently gave multiple responses, and broad categories of suggested improvements included *technology*, *communication*, *content*, and *amount of time investment*. The Literacy Matrix team worked diligently with teachers to improve their user experience, and provided enhancements throughout the year.

Suggested Improvements

Technology (81% of responses), such as making improvements to the Literacy Matrix Dashboard (29%) and fixing uploading and downloading errors (16%).

Communication (36% of responses), such as providing an orientation or syllabus for the program (8%).



Content (35% of responses), such as making changes to various activities within the Literacy Matrix.

Amount of time investment (21% of responses), such as reducing the time to view and complete modules (13%).

Completed Enhancements

Fixed bugs in the software, added Learning Goals to enable teachers to access the Literacy Matrix based on competency need and track their own learning goals on the newly created dashboard.

Hired over 30 Course Navigators to provide individualized communication and timely feedback. Course now includes a welcome video to orient participants and Completion Guides to describe course expectations.

Added resources to support learning and onboarded expert Literacy Navigators to assist educators through the Literacy Matrix.

The amount of time investment matches the state requirement, but modules were re-created and/or streamlined to address concerns.



FLAMINGO LITERACY

MATRIX

“Teacher Testimonials

I have taught for decades, but the systematic and explicit instruction presented was so useful and taught me strategies that I hadn't been seen before. I can't wait to try the strategies with children in my classroom! Thank you!

I have learned so much through this PD. As an ESE Support teacher who works with struggling readers, I am much better prepared to meet the needs of my students in the next school year. THANK YOU...I'm kind of sad it's over.

This has been so beneficial and I have learned so much. The videos of application really helped. This training has totally changed my view of my reading instruction.

The platform is user friendly, no issues with downloads or opening things, easy to connect.



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