

# RESEARCH RESULTS

## Read 180: Pulaski Community School District

### STUDY PROFILE

#### DISTRICT:

Pulaski Community School District, Pulaski, Wisconsin

#### GRADES:

8–10

#### STUDY DESIGN:

Promising (ESSA)<sup>1</sup>

#### EVALUATION PERIOD:

2022–2023 school year

#### STUDY CONDUCTED BY:

Forge Research Group

#### OUTCOME MEASURES:

- HMH *Reading Inventory*
- *FastBridge* Reading
- Wisconsin Forward Exam ELA

#### IMPLEMENTATION:

Software Only

### DISTRICT CHARACTERISTICS

Pulaski Community School District (PCSD), located in Pulaski, Wisconsin, is one of the largest school districts by area in the state. PCSD served 3,775 full-time equivalent PK–12<sup>th</sup>-grade students within 5 elementary schools, 1 middle school, and 1 high school during the 2022–2023 school year<sup>2</sup>. The ethnic backgrounds of these students were: White (89%), Hispanic or Latino (4%), Native American (2%), Black (1%), Asian, Native Hawaiian or Pacific Islander (1%), and students with multiple ethnic backgrounds (3%). The students in the district were 48% male and 52% female, 20.8% of students in the district were socio-economically disadvantaged (eligible for free or reduced-price lunch), 14.9% were classified as Students with Disabilities (SWD), and 1.2% were English learners (EL).

### IMPLEMENTATION OVERVIEW

#### IMPLEMENTATION MODEL

Pulaski Community School District (PCSD) students in Grades 8–10 who were identified as struggling with reading continued regular ELA instruction and were enrolled in the *Read 180*<sup>®</sup> program using the software only. These students worked independently in the *Read 180* Student Application (Student App) during intervention instruction periods, approximately 20–25 minutes a day, multiple times a week. Middle school *Read 180* students (8<sup>th</sup> grade) received regular ELA instruction utilizing the Core Ready curriculum, with some students piloting *HMH Into Literature*<sup>®</sup>. High school *Read 180* students (9<sup>th</sup> and 10<sup>th</sup> grades) received regular ELA instruction utilizing teacher-created materials. PCSD Learning Support Teachers attended optional Getting Started sessions to receive an overview of the *Read 180* program before the program was implemented. Teachers also had access to online coaching sessions and basic tutorials during use.

### PARTICIPANTS

One PCSD middle school and one high school utilized *Read 180* within reading intervention classes during the 2022–2023 school year. All students who completed at least 100 minutes of *Read 180* software usage but not *System 44*<sup>®</sup> software in the same year ( $N=28$ ) were included in the analysis (see Table 1). *Read 180* student demographics included: Asian or Pacific Islander (3.6%), Caucasian or White (85.7%), Hispanic (7.1%), and Native American (3.6%). Of these students, 18% were female and 82% were male, 22% were classified as Students with an Individualized Education Plan (IEP), and 7% were classified as English learners (EL).

**TABLE 1. PCSD READ 180 STUDENTS GRADES 8–10 (N=28) DEMOGRAPHICS 2022–2023**

Characteristics	N	Percentage
<b>Grade</b>		
8	12	42.9%
9	15	53.6%
10	1	3.6%
<b>Gender</b>		
Female	5	17.9%
Male	23	82.1%
<b>Ethnicity</b>		
Asian or Pacific Islander	1	3.6%
Caucasian/White	24	85.7%
Hispanic	2	7.1%
Native American	1	3.6%
<b>Students with a Disability Diagnosis</b>		
Specific Learning Disability	1	3.6%
Speech and Language	5	17.9%

<sup>1</sup>Correlational study with statistical control for selection bias.

<sup>2</sup>National Center for Education Statistics, PCSD Fact Sheet 2022–2023 <https://nces.ed.gov/>

<b>English Learners</b>	2	7.1%
<b>School</b>		
Pulaski Middle School	12	42.9%
Pulaski High School	16	57.1%

## MEASURES

### Software Usage Data

Student software usage data was collected as students used the *Read 180* online Student App. Software usage data included number of completed segments, number of completed sessions, average time spent in each session, and number of sessions averaged per week.

### Reading Inventory

The HMH *Reading Inventory* measures reading comprehension proficiency for students in Grades K–12. The *Reading Inventory* uses adaptive technology to determine a student's reading comprehension level on the Lexile® Framework for Reading. Assessment results include a Lexile scale score that indicates reading ability at a level of text complexity and a performance level of below basic, basic, proficient, or advanced, indicating achieved reading comprehension compared to grade-level expectations. PCSD students receiving *Read 180* instruction completed the *Reading Inventory* before beginning *Read 180* and as a progress check throughout the 2022–2023 school year.

### FastBridge Reading Assessment

The FastBridge reading assessment, created by Illuminate Education, utilizes computer-adaptive testing with curriculum-based measures to enable universal screening, progress monitoring, and intervention guidance for students in K–12<sup>th</sup> grade. Assessment results include a scale score and equivalent percentile. PCSD students completed the FastBridge reading assessment in the fall, winter, and spring.

### Wisconsin Forward Exam

The Wisconsin Forward Exam was designed to measure student progress in achieving end-of-year Wisconsin Academic Standards. Students in 3<sup>rd</sup>–8<sup>th</sup> grades complete the online assessment in the spring of each school year. The computer-administered Wisconsin Forward ELA Exam includes multiple-choice questions, short answer questions, and a writing prompt. Assessment results include a scale score, achievement level, and equivalent percentile.

## RESULTS

An independent evaluator from Forge Research Group analyzed student academic achievement using data provided by the Pulaski Community School District and Houghton Mifflin Harcourt. *Read 180*® students' ELA performance was examined pre- and post-*Read 180* usage utilizing multiple independent outcome measures.

## USAGE

During the 2022–2023 school year, PCSD *Read 180* students completed an average of 49.0 ( $SD=21.2$ ) total sessions with 1.5 ( $SD=0.5$ ) sessions averaged a week and averaging 15.5 minutes ( $SD=3.5$ ) per session in the *Read 180* online student application (see Table 2).

**TABLE 2. PCSD READ 180 STUDENTS GRADES 8–10 (N=28)  
READ 180 SOFTWARE USAGE MEANS 2022–2023**

Read 180 Software Usage	2022–2023		
	Grade 8	Grade 9	Overall
N	12	15	28
Sessions Completed	33.9	62.3	49.0
Median Time Per Session (min)	16.0	15.4	15.5
Average Sessions Per Week	1.5	1.6	1.5
Total Time (hours)	8.8	16.3	12.7
Segments Completed	3.3	8.7	6.2

## PERFORMANCE

### Reading Inventory

*Read 180* students completed the *Reading Inventory* before beginning *Read 180* and as a progress check throughout the 2022–2023 school year. Overall, students who completed the *Reading Inventory* at two time points<sup>3</sup> (in the fall and spring, fall and winter, or winter and spring) demonstrated a statistically significant overall gain in Lexile (L) scores, averaging a 151L increase from first to last testing in the school year (see Figure 1), effect size Cohen's  $d=.90$ . Disaggregation of the data indicated that students in both 8<sup>th</sup> and 9<sup>th</sup> grades achieved statistically significant *Reading Inventory* Lexile gains, effect size Cohen's  $d=1.66$  and .95, respectively (see Appendix Table A1).

**FIGURE 1  
PCSD READ 180 STUDENTS GRADES 8–10 (N=27)  
CHANGE IN READING INVENTORY LEXILE SCORE OVERALL AND BY  
GRADE, 2022–2023**

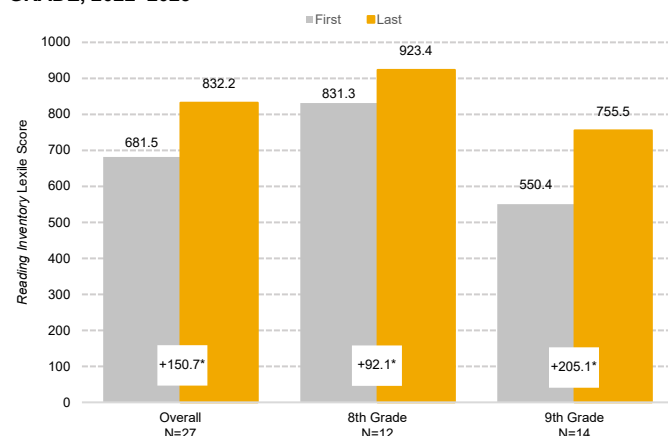


Figure Note: \*significant at  $p<.05$ .

Based on a nationally representative sample, growth by grade level and initial Lexile score was averaged across six years of 373,880 students' data to create an annual expected growth measure<sup>4</sup>. Overall, PCSD *Read 180* students achieved greater than projected annual *Reading Inventory* Lexile score growth (see Figure 2). Of note, these gains averaged 2 times more growth than expected and students at each grade level attained statistically significantly greater than average annual expected growth. Nearly all of the students met or exceeded growth goals (85%) based on the annual expected growth and 52% of students demonstrated at least 2 times more than annual expected growth.

<sup>3</sup>As a previous *Read 180* gains analysis has shown that students who decrease more than 100L on the *Reading Inventory* from fall to spring demonstrate poor test motivation and produce unreliable longitudinal achievement scores, those scores that decreased more than 100L were excluded from this implementation analysis. The *Reading Inventory* scores of one PCSD student decreased more than 100L in the 2022–2023 school year (4%/n=1).

<sup>4</sup><https://www.hmhco.com/documents/hmh-reading-inventory-est-average-annual-growth>

**FIGURE 2**  
PCSD READ 180 STUDENTS GRADES 8–10 (N=27)  
READING INVENTORY LEXILE SCALE SCORE GROWTH ACTUAL  
VERSUS PROJECTED, 2022–2023

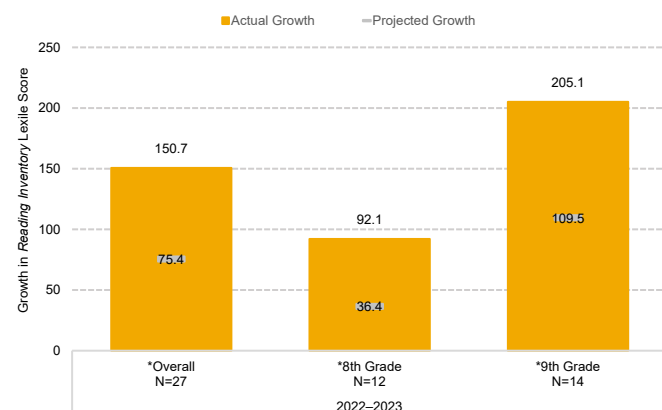


Figure Note: \*actual growth was statistically significantly greater than projected growth at  $p < .05$ .

Further, use of the *Read 180* online Student Application (Student App) was a statistically significant correlate of *Reading Inventory* Lexile score growth in the 2022–2023 school year both with and without statistical control for selection bias (see Appendix Table A2 for details). On average, *Read 180* students who completed more segments of the *Read 180* online software also achieved higher gains in the *Reading Inventory* Lexile score from first to last assessment (see Figure 3). Students who completed 7 or more segments of the Student App achieved an average of 4.5 times more Lexile score gain (232L) compared to students who completed 1–2 segments (52L). The magnitude of the difference between pre-*Read 180* and post-*Read 180* *Reading Inventory* Lexile scores was large at each level of implementation as indicated by the effect sizes: low implementation Cohen's  $d = .86$ , moderate implementation Cohen's  $d = 2.14$ , high implementation Cohen's  $d = 3.23$ , and very high implementation Cohen's  $d = .98$ .

**FIGURE 3**  
PCSD READ 180 STUDENTS GRADES 8–10 (N=27)  
READING INVENTORY LEXILE SCALE SCORE BY IMPLEMENTATION  
LEVEL, 2022–2023

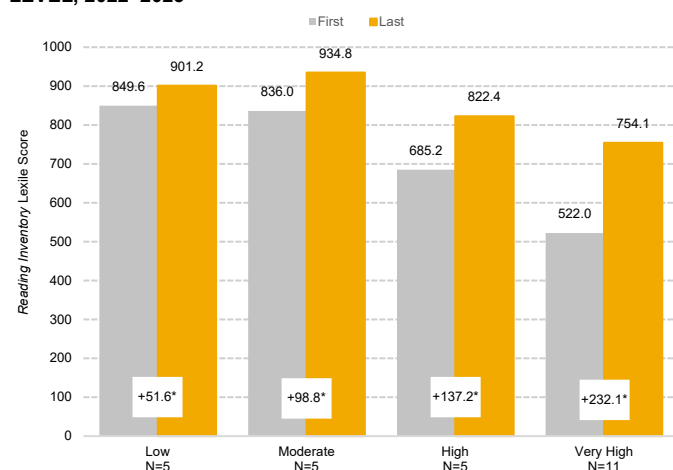


Figure Note: \*significant at  $p < .05$ ; low=1–2 segments, moderate=3–4 segments, high=5–6 segments, and very high=7 or more segments.

Of note, in the 2022–2023 school year, based on beginning-of-year grade-level proficient College and Career Ready Lexile scores<sup>5</sup>, 78% of *Read 180* students increased at least 1 grade level in reading proficiency, with 26% of students increasing 2, and 11% of students increasing 3 or more grade levels in reading proficiency (see Table 3).

**TABLE 3. PCSD READ 180 STUDENTS GRADES 8–10 (N=27)  
INCREASE IN GRADE-LEVEL READING  
PROFICIENCY 2022–2023**

Grade Levels Gained	N	%
1	11	40.7
2	7	25.9
3 or more	3	11.1

*Read 180* student *Reading Inventory* performance levels also reflected these increases in reading proficiency (see Figure 4). The percentage of students achieving at least a proficient *Reading Inventory* performance level increased from first to last testing by 267% (from 11% to 30%) in the 2022–2023 school year. Further, the percent of students scoring at a below basic performance level decreased from first to last testing by 73% (from 41% to 11%) in the 2022–2023 school year. The increase in students' performance levels on the *Reading Inventory* was statistically significant overall and at each grade level, effect size Cohen's  $d = .83$  overall, Cohen's  $d = .96$  8<sup>th</sup> grade, and Cohen's  $d = .66$  9<sup>th</sup> grade.

**FIGURE 4**  
PCSD READ 180 STUDENTS GRADES 8–10 (N=27)  
CHANGE IN READING INVENTORY PERFORMANCE LEVELS, 2022–  
2023

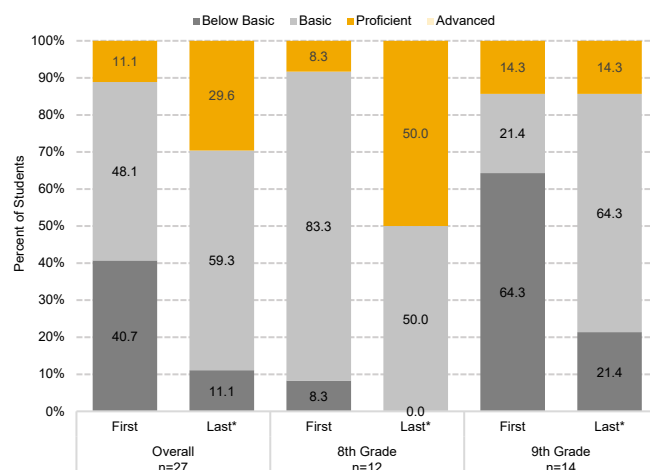


Figure Note: \*significant increase at  $p < .05$ .

Qualitative reports likewise indicate that *Read 180* students demonstrated accelerated ELA growth in the 2022–2023 school year.

*"If students were engaged in the app and motivated by the program, I feel this program does help their reading skills in the area of those foundational skills."* – Pulaski Community School District employee

*"You cannot argue that the data is in favor of Read 180 though. Implemented with fidelity, we are seeing massive growth in students."* – Pulaski Community School District employee

#### FastBridge Reading Assessment

*Read 180* students completed the *FastBridge* reading assessment in the fall and spring of the 2022–2023 school year. Overall and at each grade level, students demonstrated a statistically significant increase in *FastBridge* reading scores, averaging a 12-point gain from first testing to last testing within the school year (see Figure 5), Cohen's  $d = 1.25$  overall, Cohen's  $d = 1.28$  8<sup>th</sup> grade, and Cohen's  $d = 1.60$  9<sup>th</sup> grade.

<sup>5</sup><https://lexile.com/educators/measuring-growth-with-lexile/college-and-career-readiness/>

**FIGURE 5**  
PCSD READ 180 STUDENTS GRADES 8–10 (N=25)  
CHANGE IN FASTBRIDGE READING SCORES, 2022–2023

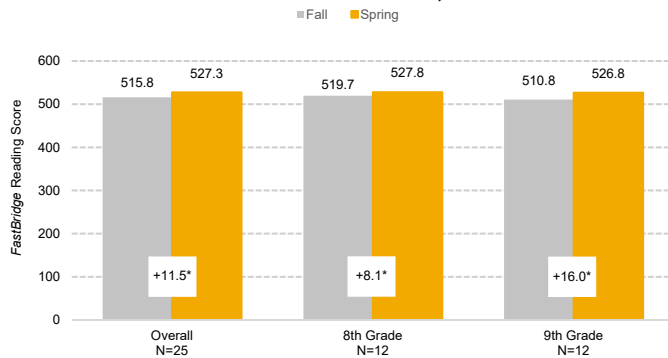


Figure Note: \*significant at  $p < .05$ .

Further, *Read 180* students showed accelerated growth in *FastBridge* reading percentile scores compared to their initially same-scoring peers. On average, students scored better than 15% of their peers during the fall *FastBridge* reading assessment, but better than 22% of their peers during the spring *FastBridge* reading assessment in the 2022–2023 school year (see Figure 6), effect size Cohen's  $d = .70$  overall, Cohen's  $d = .45$  8<sup>th</sup> grade, and Cohen's  $d = 1.11$  9<sup>th</sup> grade.

**FIGURE 6**  
PCSD READ 180 STUDENTS GRADES 8–10 (N=25)  
CHANGE IN FASTBRIDGE READING PERCENTILES, 2022–2023

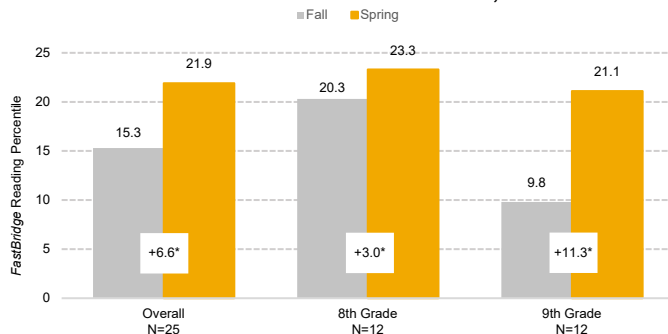


Figure Note: \*significant at  $p < .05$ .

On average, *Read 180* students who completed more segments of the *Read 180* Student App also achieved higher gains in the *FastBridge* reading score from fall to spring assessment (see Figure 7). Students who completed 7 or more segments of the Student App achieved an average of 1.6 times more scale score gain (16 points) compared to students who completed less than one segment (10 points), Cohen's  $d = 1.59$  with low implementation, Cohen's  $d = .71$  with moderate implementation, Cohen's  $d = 1.00$  with high implementation, and Cohen's  $d = 1.68$  with very high implementation.

**FIGURE 7**  
PCSD READ 180 STUDENTS GRADES 8–10 (N=25)  
GROWTH IN FASTBRIDGE READING SCORE BY IMPLEMENTATION LEVEL, 2022–2023

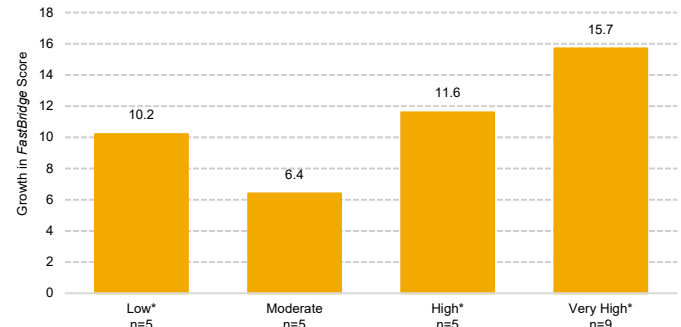


Figure Note: \*significant at  $p < .05$ ; low=1–2 segments, moderate=3–4 segments, high=5–6 segments, and very high=7 or more segments.

### Wisconsin Forward Summative ELA Assessment

PCSD 3<sup>rd</sup>–8<sup>th</sup> grade students completed the Wisconsin Forward summative ELA assessment in the spring of both 2022 and 2023 to measure end-of-year ELA skills. PCSD *Read 180* students achieved statistically significant increases in reading scores (see Figure 8) from spring 2022 ( $M = 592$ ) to spring 2023 ( $M = 612$ ), effect size Cohen's  $d = .92$ .

**FIGURE 8**  
PCSD READ 180 STUDENTS GRADE 8 (N=12)  
GROWTH IN WISCONSIN FORWARD EXAM ELA SCORE SPRING 2022 TO SPRING 2023

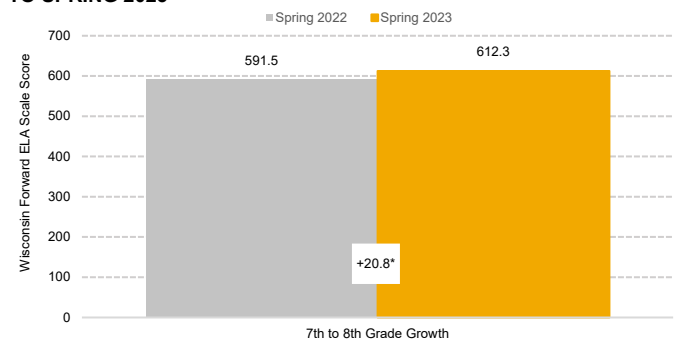


Figure Note: \*significant at  $p < .05$ .

PCSD *Read 180* students showed accelerated growth in Wisconsin Forward ELA percentile scores compared to their initially same-scoring peers. On average, *Read 180* students scored better than 31% of their peers during the spring 2022 Wisconsin Forward test but better than 38% of their peers during the 2023 Wisconsin Forward test (see Figure 9).

**FIGURE 9**  
PCSD READ 180 STUDENTS GRADE 8 (N=12)  
GROWTH IN WISCONSIN FORWARD ELA PERCENTILES SPRING 2022 TO SPRING 2023

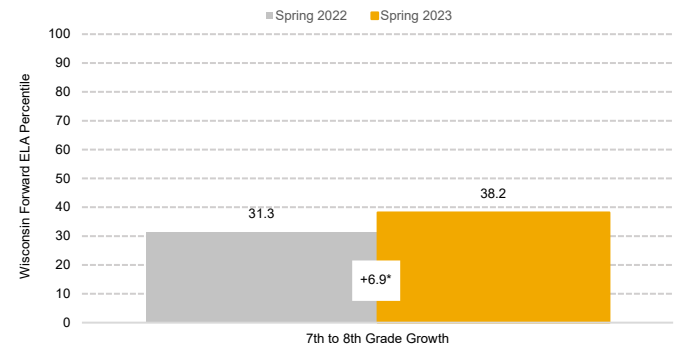
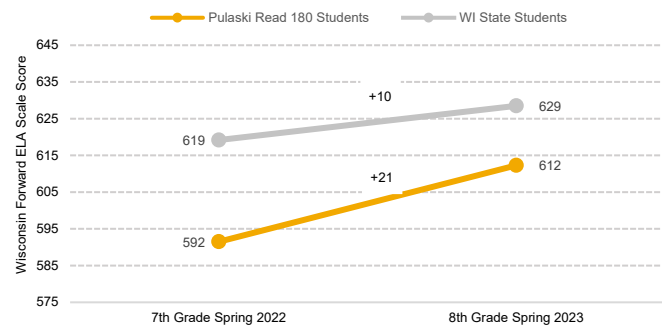


Figure Note: \*significant at  $p < .05$ .

In comparison to the year-to-year growth attained by all Wisconsin students (10-point increase), *Read 180* students who completed the Wisconsin Forward ELA assessment in both years attained accelerated year-to-year growth (21-point increase) post-*Read 180* implementation (see Figure 10).

**FIGURE 10**  
**PCSD READ 180 STUDENTS GRADE 8 (N=12) AND WISCONSIN STATE STUDENTS GRADE 8 (N=58,054)**  
**GROWTH IN WISCONSIN FORWARD EXAM ELA SCORE SPRING 2022 TO SPRING 2023**



*"I am in the diagnostic skills section weekly looking at areas that need to be supported with direct instruction. I enjoy that it shows me where I can make small groups of students with similar lagging skills. I also like that it shows me how many minutes a student is averaging in the app so I can address distracted students."*

– Pulaski Community School District employee

This study demonstrates that the *Read 180* Student App can effectively be used for independent work during ELA intervention sessions to accelerate gains of students struggling to achieve grade-level ELA proficiency.

## CONCLUSION

A correlational analysis using multiple independent ELA outcome measures supported the idea that Pulaski Community School District students who utilized only the *Read 180* Student App made significant improvements in English Language Arts proficiency.

Pulaski Community School District assigned usage of the *Read 180* Student App to 8<sup>th</sup>–10<sup>th</sup>-grade students struggling to achieve grade-level ELA proficiency. PCSD students who worked independently in the *Read 180* Student App during reading intervention sessions made significant improvements in English Language Arts proficiency. *Read 180* students demonstrated statistically significant increases in *Reading Inventory* Lexile scores and performance levels, *FastBridge* reading scores, and Wisconsin Forward ELA scale scores. Further, *Read 180* students demonstrated statistically significantly greater than annual expected growth on the HMH *Reading Inventory*, achieving two times more growth than expected based on a national average. Further, increases in both *FastBridge* and Wisconsin Forward percentile scores demonstrated that PCSD *Read 180* students achieved accelerated growth in ELA proficiency during the 2022–2023 school year. Importantly, 37% of *Read 180* students increased at least two grade levels in reading comprehension after one year of instruction, with 30% achieving a proficient or higher *Reading Inventory* performance level, indicating an ability to access grade-level curriculum.

The total number of completed *Read 180* Student App segments varied by student. In the 2022–2023 school year, an increased number of completed *Read 180* segments was a significant correlate of *Reading Inventory* Lexile score growth, both with and without statistical control for selection bias.

The quantitative results were supported by qualitative feedback. Learning Support Teacher feedback indicated that the *Read 180* components were of good quality and helpful in improving student outcomes.

*"I liked having the diagnostic skills listed to help pause the student on the app to work on skills that were lacking."*

– Pulaski Community School District employee

# APPENDIX

**TABLE A1.**  
**PULASKI COMMUNITY SCHOOL DISTRICT READ 180 STUDENTS, GRADES 8–10, (N=27)**  
**RESULTS OF READING INVENTORY T-TEST AND DESCRIPTIVE STATISTICS, 2022–2023**

	First Reading Inventory Score		Last Reading Inventory Score		n	95% CI for Mean Difference		t	df	p	Effect Size Cohen's d
	M	SD	M	SD		Lower	Upper				
<b>2022–2023</b>											
Overall	681.52	268.54	832.19	161.99	27	-21.92	-84.42	-4.68	26	<.001	.90
<b>Grade</b>											
Eighth	831.33	114.20	923.42	86.28	12	-127.36	-56.80	-5.75	11	<.001	1.66
Ninth	550.43	306.37	755.50	179.25	14	-330.07	-80.07	-3.54	13	.002	.95
Tenth	-	-	-	-	1	-	-	-	-	-	-
<b>Implementation</b>											
Minimal	-	-	-	-	1	-	-	-	-	-	-
Low	849.60	151.97	901.20	152.10	5	-126.289	23.089	-1.92	4	.064	.86
Moderate	836.00	103.55	934.80	92.68	5	-156.020	-41.580	-4.79	4	.004	2.14
High	685.20	62.63	822.40	45.92	5	-189.904	-84.496	-7.23	4	<.001	3.23
Very High	522.00	341.79	754.09	200.10	11	-390.686	-73.496	-3.26	10	.004	.98

*Table Note:* M=mean; SD=standard deviation; n=sample size; CI=confidence interval; df=degrees of freedom; p=one-sided significance. Demographic categories with less than 5 students are suppressed to maintain student confidentiality.

**TABLE A2.**  
**PULASKI COMMUNITY SCHOOL DISTRICT *READ 180* STUDENTS, GRADES 8–10, (*N*=27)**  
**CORRELATION BETWEEN *READ 180* IMPLEMENTATION LEVEL AND *READING INVENTORY* SCORE GROWTH, 2022–2023**

Variable	<i>N</i>	<i>M</i>	<i>SD</i>	<i>r</i>	Naïve Analysis		Corrected for Selection Bias	
					95% CI	<i>p</i>	95% CI	<i>p</i>
<i>Read 180</i> Segments 2022–2023	27	6.37	4.72	.46	.10, .72	.015	.02, .82	.015

*Table Note.* *N*=sample size; *M*=mean; *SD*=standard deviation; *r*=Pearson correlation; CI=confidence interval; *p*=significance.

Check out more *Read 180* research at [hnhco.com/read180research](https://hnhco.com/read180research)

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