

Impact Report

2017-2018 STAAR READING Performance for Students
Using Achieve3000's PRO Solutions in Fort Worth, Texas.



2017-2018

INTRODUCTION

Achieve3000 conducted an analysis of Fort Worth students' performance on the STAAR READING assessment in relation to their usage of Achieve3000's, PRO literacy solutions in spring of 2017 and 2018. The solutions examined in this document – KidBiz3000® (grades 4-5) and TeenBiz3000® (grades 6-8) – are powered by a patented methodology that delivers grade-appropriate lessons to the entire class, and simultaneously tailors them according to each student's Lexile® reading level. Achieve3000's solutions have been proven to accelerate reading comprehension, fluency, writing proficiency, and vocabulary development beyond what is expected over the course of a single school year.

Fort Worth Independent School District (FWISD), includes 143 schools with more than 86,000 students (FWISD, 2018). Fifty percent of the students are male (Public School Review, 2018). Approximately 77 percent of students qualify for free or reduced lunch, 30 percent are English language learners (ELL), and 8 percent receive special education services (Texas Tribune, 2018; NCES, 2016). Sixty two percent of students are Hispanic, 23 percent are black, and 11 percent are white (Public School Review, 2018).

Fort Worth began using Achieve3000's PRO literacy solutions in the fall of 2016 with grades K-12 as part of the city-wide "100x25" initiative. The initiative aims to support schools in making sure that 100 percent of third grade students will be reading on grade-level by 2025. The district set the expectation for all schools to include one Achieve3000 lesson in students' English language arts and science or social studies classrooms, for a total of two lessons completed each week.

A majority of elementary schools in FWISD use a dual-language instructional model for English learners. These students use PRO to read articles and complete lessons in English and/or Spanish. Students in middle and high schools do not follow a dual-language program, but English learners still have the option to access language scaffolds, such as vocabulary keys and text-to-speech tools, to receive support.

METHODOLOGY

This report relies on internal usage and Lexile data as well as STAAR READING data from spring 2017 and spring 2018 for students in fourth through eighth grades. To examine the impact of usage of PRO on Lexile growth, a sample of 23,078 students who met the following inclusion criteria was identified:

- ✓ Had valid pre-test and end-of-year Lexile measures during the 2017-2018 school year,
- ✓ Completed at least 10 assessments embedded within Achieve3000's lessons, and
- ✓ Had at least 60 days between the date of their most recent Lexile measure and their pre-test.

MEASURES

LevelSet™

Developed by Achieve3000 in partnership with MetaMetrics®, the LevelSet assessment identifies each student's Lexile reading measure and is a reliable means of matching student reading levels to informational text. The LevelSet assessment can be administered up to three times a year—a pre-test at the beginning of the school year, an interim test in the middle of the school year, and a post-test at the end of the school year—to measure student progress and provide a summative measurement of student growth in English or Spanish. Achieve3000 and MetaMetrics developed 4 grade-specific achievement level descriptors for college and career readiness: falls far below, approaches, meets, and exceeds. Students performing in the higher two achievement levels, meets and exceeds, are considered to be “on-track” for college and career readiness, whereas students performing in the lower two achievement levels, falls far below and approaches, are considered to be “not-on-track.”

Achieve3000 uses a Bayesian scoring algorithm, also developed by MetaMetrics, to provide continually updated measures that reflect the students' progress in reading development. As the student reads and responds to nonfiction text via multiple-choice activities embedded within their reading lessons, the Bayesian approach refines each student's Lexile measure. By using multiple measures over time, the Bayesian scoring improves the accuracy of measurement as students learn. With this approach, Achieve3000's proprietary engine is able to improve its ability to match students with appropriate texts and to forecast student readiness for college and career benchmarks.

STAAR READING

Students enrolled in grades 3-8 in Fort Worth participate in the State of Texas Assessments of Academic Readiness (STAAR) program, which, among other assessments, includes yearly assessments in reading (TEA, 2018a). Students taking the STAAR are given a raw score, equivalent to the number of questions students answered correctly. These are then converted to scale scores that can be interpreted across different sets of test questions, allowing for direct comparisons of student performance between specific sets of test questions from different tests. Ranges of scale scores are further converted to performance levels that related levels of test performance to expectations defined in the state-mandated curriculum standards known as the Texas Essential Knowledge and Skills (TEKS) (TEA, 2018b). The performance level categories are masters grade level, meets grade level, approaches grades level, and did not meet grade level (TEA, 2018c). Passing scores in the STAAR READING are those that fall in the approaches, meets, or masters grade level categories.

RESULTS

Program Usage

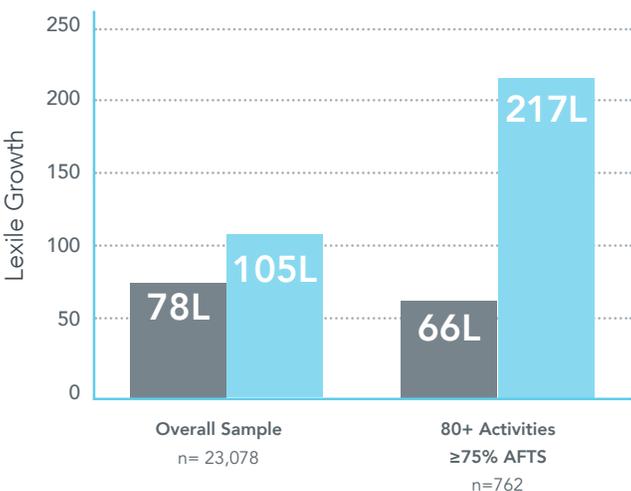
Over the course of the 2017-2018 school year, participating students in fourth through eighth grade logged in an average of 80 times, completed 56 lessons with an average first-try score (AFTS) of 70 percent on embedded assessments (see Table 1). While fourth- and fifth-graders tended to complete more lessons than students in grades 6-8, their average first-try scores were similar across all grades (69%-71%).

PROGRAM USAGE SUMMARY OVERALL AND BY GRADE

Grade	Students	Log-ins (Avg.)	Program Hours (Avg.)	Activities (Avg.)	Avg. # of Total Activities	AFTS	% with 40+ Activities and 75% or higher average first-try score
4	4,015	106	32	73	83	69%	22%
5	4,505	104	32	70	79	71%	28%
6	5,233	73	28	49	57	70%	22%
7	5,133	65	25	46	55	70%	19%
8	4,192	59	23	44	53	70%	14%
All Grades	23,078	80	28	56	64	70%	21%

Table 1: FWISD Students' Program Usage Summary Overall and by Grade, 2017-2018 School Year

ACTUAL VS. EXPECTED LEXILE GROWTH



Graph 1: Fall 2017 to Spring 2018 Actual Lexile Growth Compared to Expected Lexile Growth for FWISD Achieve3000 Students Overall, and Students Using Achieve3000 with High Quantity and Quality of Practice.

Lexile Growth

Overall, students demonstrated an average Lexile growth of 105L, which exceeded their average expected growth of 78L. Students who used PRO with greater quantity and quality of practice saw greater Lexile gains. Specifically, students who completed 80 or more lessons and had an average first-try score of $\geq 75\%$ on the embedded assessment achieved gains of 217L on average, which was more than three times their expected growth of 66L. (See Graph 1.) In addition, the percentage of Fort Worth students in this sample who were college & career ready increased from 10 percent to 19 percent over the course of the 2017-2018 school year.

RESULTS (cont.)

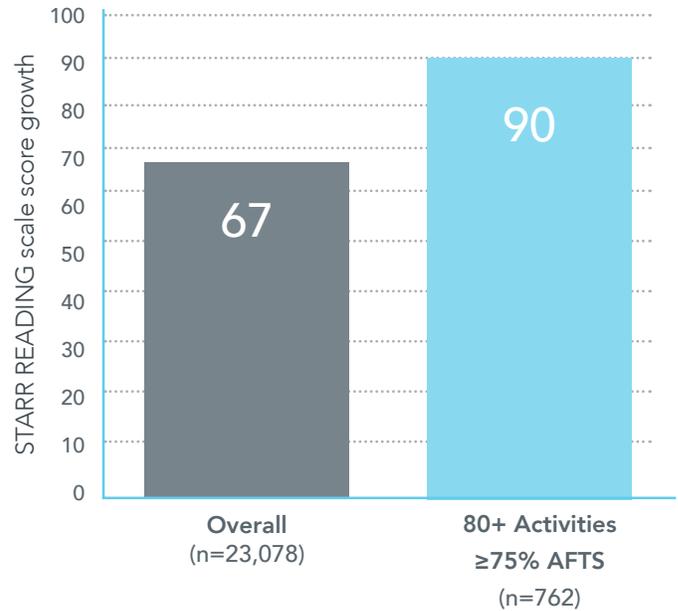
STAAR READING Performance

On average, students who used Achieve3000's PRO solutions, KidBiz and TeenBiz, improved by 67 scale score points on the STAAR READING test from spring 2017 to spring 2018. As seen with Lexile gains, students who used PRO with greater fidelity saw greater scale score gains on STAAR READING. Notably, students who completed 80 or more lessons and maintained an average first-try score of 75% or above on the embedded assessment demonstrated the largest increase of 90 scale score points. See Graph 2.

Furthermore, the percent of students passing the STAAR READING (i.e. Approaching, Meeting, or Mastering Standards) increased from 61 percent in 2017 to 68 percent in 2018 (See Graph 3.) Notably, 94 percent of students with high quantity and quality of practice (MC 40-79 and 75%+ scores) passed the STAAR READING assessment in 2018 (See Graph 4.)

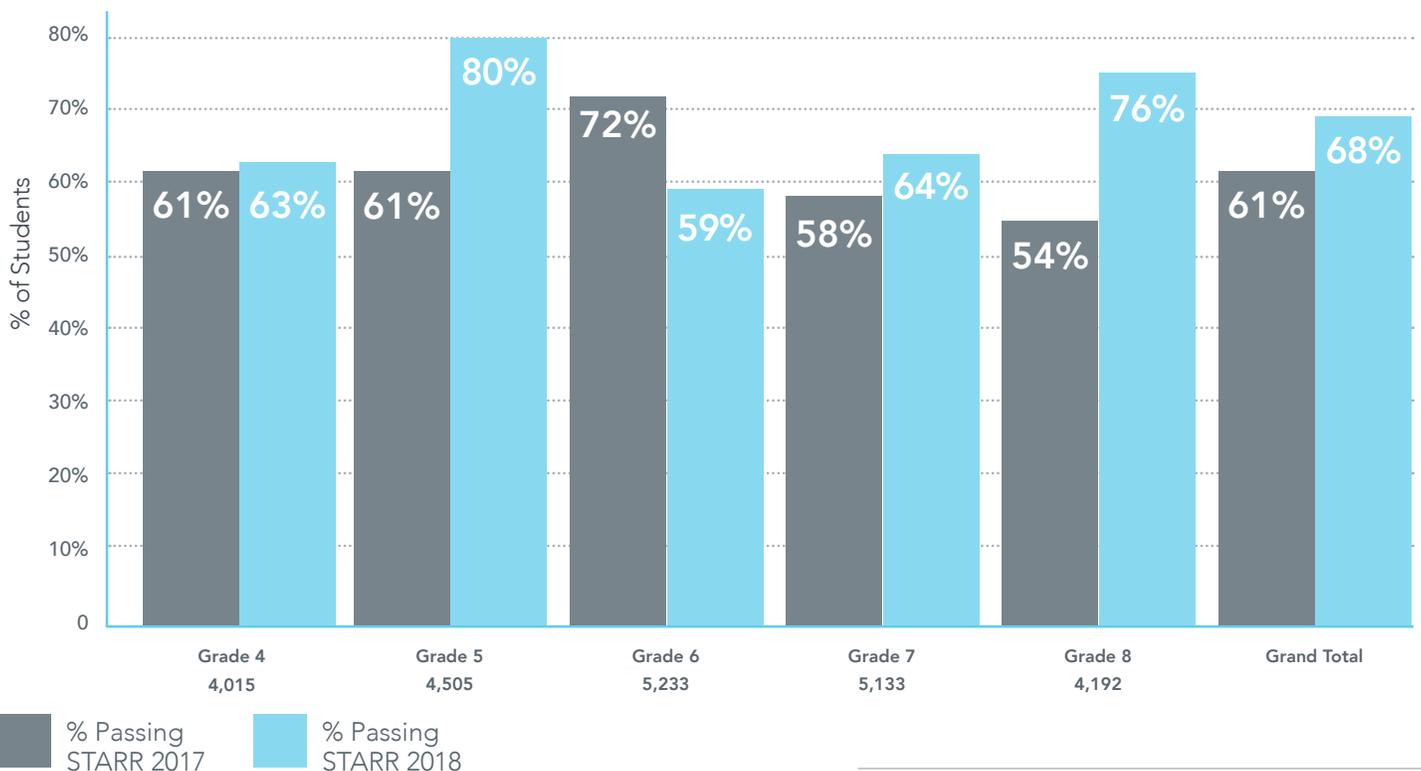
Overall, there was a strong and positive statistical correlation between students' end-of-year Lexile measures and their spring 2018 STAAR READING scores. This correlation was statistically significant ($r = 0.84$, $N = 23,078$, $p < 0.0001$).

STAAR READING SCALE SCORE GROWTH

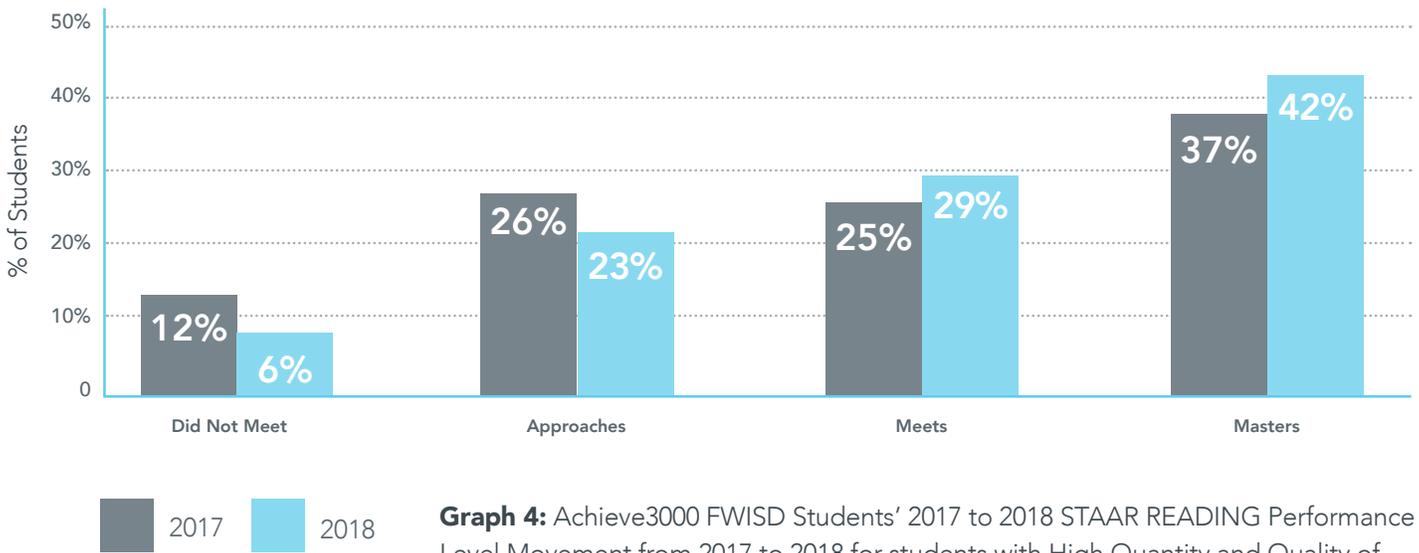


Graph 2: Achieve3000 FWISD Students' 2017 to 2018 STAAR READING Scale Score Growth, Overall and for Students Using PRO with High Quantity and Quality of Practice

Graph 3: PERCENT OF STUDENTS PASSING THE STAAR READING FROM 2017-2018



STAAR READING PERFORMANCE LEVEL MOVEMENT FROM 2017-2018



Graph 4: Achieve3000 FWISD Students' 2017 to 2018 STAAR READING Performance Level Movement from 2017 to 2018 for students with High Quantity and Quality of Practice (40-79 Activities and $\geq 75\%$ AFTS)

CONCLUSION

Overall, Achieve3000 students in Fort Worth showed improvement on both the LevelSet and the STAAR READING tests after using Achieve3000's PRO solutions during the 2017-2018 school year. Furthermore, students who used PRO with highest quantity and quality of practice demonstrated greater gains on both the LevelSet and the

STAAR READING tests. Together, these results demonstrate that students using PRO will see improvements on measures of reading achievement, and these improvements will be more pronounced for students using PRO more frequently and with greater engagement.

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Published by Achieve3000, Inc.,
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