Executive Summary

Achieve3000 22-23 End of Year Version

SCHOOL DISTRICT OF OSCEOLA COUNTY

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Complete details of all analyses, and literature references, can be requested from REA

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Background

Achieve3000 is an online differentiated literacy program providing standards-based content. It was designed to accelerate student reading comprehension, fluency, writing proficiency, and vocabulary development using nonfiction informational text. The program starts by administering a criterion referenced LevelSet online assessment, which uses the Lexile Framework to assess students' reading abilities. The Lexile Framework measures both the difficulty of the text and students' reading abilities to determine students' Lexile scores. The results of the LevelSet assessment are then applied to each student's academic profile so they can receive grade-appropriate lessons containing readings, activities, and built-in formative assessments.

The School District of Osceola County (SDOC) has utilized Achieve3000 in grades 6-8 since the 2013-2014 school year. In 2017 an internal district program evaluation was conducted. This evaluation concluded that Achieve3000 had little impact ($d = 0.07$) with regards to FSA ELA gains (Seabolt & Pierce, 2017). During the 2018-2019 school year, the use of Achieve3000 in SDOC was expanded to high school students enrolled in intensive reading courses. In 2020 another internal district program evaluation was conducted. This evaluation concluded that Achieve3000 had an effect size of $d = .14$ with regards to increasing FSA ELA scores for students who used the program with fidelity compared to students who did not (Pierce, 2020). Initially the effect sizes for both evaluations were interpreted as small. However, using a revised interpretation from Matthew Kraft (2019) these effects can be interpreted as moderate. In the 2022-2023 school year, 9,361 students in grades 6-12 utilized the program in the School District of Osceola County for the full year in school (as defined by the state of Florida school accountability system).

Purpose

The purpose of this evaluation was to examine the effectiveness of Achieve3000 in increasing literacy.
The following evaluation questions were posed:

1. What perceptions do teachers have of Achieve3000?
2. What percent of students are using Achieve3000 with fidelity?
3. Does usage of Achieve3000 predict increases in Lexile scores for students in grades 6-12?
4. Does usage of Achieve3000 predict higher FAST ELA test results for students in grades 6-8?
5. Is there a return on investment of Achieve3000?

Methodology

Achieve3000 student data (number of activities completed, first-time assessment scores, program hours, and Lexile scores) was obtained directly from Achieve3000. Student demographics were obtained from the FOCUS student information system, while FAST monitoring scores were obtained from District Student Report (DSR) files. Data related to costs of the program was determined via contract. Statistical tests were conducted using SPSS software and R Studio. Additionally, teacher perceptions were obtained from surveys.

Regression analyses were run to determine if Achieve3000 predicted Lexile growth and FAST ELA scores. Regression analysis first started by calculating intraclass correlation coefficients to determine if multilevel modeling regarding either schools or teachers were warranted. In all cases, multilevel models were not warranted with the largest intraclass correlation coefficient being 2.5%.

Key Findings

Teacher Perceptions

Survey responses were examined regarding ease of use, alignment to standards, and overall quality of Achieve3000. Overall, 71 participants responded (41% response rate). Participants were asked to rate the following statements. Response options ranged from 1 (Strongly Disagree) to 5 (Strongly Agree).

Stuvey Statement	% Participants Who Agreed
Achieve3000 is a good use of instructional time.	89
Achieve3000 is aligned to the standards I'm required to teach.	86
Students are engaged and on-task while participating in Achieve3000.	66
Students enjoy using Achieve3000.	44
The initial training I received prepared me to use Achieve3000.	71
I continue to get the support and training I need to use Achieve3000.	72
Students' reading levels have increased from using Achieve3000.	83
Achieve3000 is helping to prepare my students for the end-of-year state assessment (PM 3) or to earn a concordant score.	76
Achieve3000 fulfills a need that other programs the District uses do not.	72
Achieve3000 is superior to other programs I have previously used.	65

Survey responses were favorable toward Achieve3000 with almost 90% of participants agreeing it is a good use of instructional time. The only statement that less than half of the teachers agreed was that students enjoy using Achieve3000.

Participants were then asked how often they do the following statements. Response options ranged from 1 (Never) to 5 (Always).

Stuvey Statement	% Particpants who Often/Always Use the Following
View Achieve3000 reports	93
Use data in Achieve3000 reports to change instruction	59
Grade and/or provided feedback to the Thought Question during the 5th step of the 5-Step Literacy Routine	42
Used the Stretch Lessons after the 5-Step Literacy Routine	37

Survey responses indicated that while 93% of teachers use reports often, other components such as the thought question and stretch lessons are used less regularly by over half of teachers.

Fidelity Use

The measure of fidelity was defined as completing an average of two or more activities per week and having a first-time assessment score average of 75% or greater. This definition of fidelity is consistent with measures used in the 2017 evaluation, 2020 evaluation, and information provided by Achieve3000. The percent of students who utilized the program with fidelity per grade level is displayed in the table below.

Grade	Total Count of Students	Percent Who Used Achieve3000 with Fidelity
6	2137	8
7	1908	8
8	2252	10
9	1515	6
10	1488	11
11	43	5
12	17	0
All	9360	9

The table above indicates that, on average, only 9% of students who used Achieve3000 during the 2022-2023 school year met the fidelity threshold set by Achieve3000.

Lexile Increases

R^2 for the overall model was .083, a small effect size. Program hours in Achieve3000, pre-test Lexile scores, race, ELL status, ESE status, gifted status and days absent statistically significantly predicted Lexile score changes $F(9, 9318) = 93.828$, $p < .001$. Ethnicity, and gender did not significantly predict Lexile score changes. Closer examination of b weights reveals that for every one hour increase in usage of Achieve3000 a .023-year increase in Lexile growth was observed. In other words, usage of Achieve3000, on average, for 43 hours would be needed to result in one year of Lexile growth. While b weights are helpful at understanding unit of change, standardized Beta weights are better used to determine an effect size. Standardized Beta weight of program hours in Achieve3000 was.21 indicating a small effect.

FAST ELA Scores

Regressions for 6th, 7th, and 8th grade FAST ELA were computed separately. R^2 for the overall models were .493, .509., and .517 indicating large effect sizes. For the 6th grade model, pre-test Lexile scores, ethnicity, gender, ELL status, ESE status, gifted status, and days absent were statistically significant predictors of FAST ELA $F(9, 2087) = 227.49$, $p < .001$. Program hours in Achieve3000 and race were not significant. For the 7th grade model, program hours in Achieve3000, pre-test Lexile scores, ethnicity, race, gender, ELL status, ESE status, and gifted status were statistically significant predictors of FAST ELA $F(9, 1863) = 216.399$, $p < .001$. Days absent was not a significant predictor. Closer examination of b weights reveals that for every one hour increase in usage of Achieve3000 a .106 increase in FAST ELA was observed. In other words, usage of Achieve3000, on average, for 9.4 hours would be needed to result in one scale score increase of FAST ELA. Program hours had a standardized Beta coefficient of .065 indicating a small effect. For the 8th grade model, pre-test Lexile scores, ethnicity, gender, ELL status, gifted status, and days absent were statistically significant predictors of FAST ELA $F(9, 2204) = 264.129$, $p < .001$. Program hours in Achieve3000, race, and ESE status were not significant.

Return on Investment (ROI)

The cost of Achieve3000 licenses during the 2022-2023 school year was $250,894.04 for middle school and $142,483.56 for high school. In addition to the licenses 13,968.33 was spent on training and other fees. This brings the total cost of Achieve3000 to $407,345.93 for the 2022-2023 school year.

A teacher is required to be present during Achieve3000 use, so salary cost must be included in the model. The average salary for teachers in Osceola County is $35 per hour with 19.79% benefits rate. This results in a salary of $41.93 per hour. Based on a 182-day school year and 173 teachers for one hour per day, the amount of money in teacher salaries is $1,320,208.

The monthly cost of Internet was $336 per school. Twenty-five schools used Achieve3000 for 10 months during the 2022-2023 school year. This results in an Internet cost of $84,000. Combining the license, teachers, and Internet result in a cost of $1,811,554 for Achieve3000.

The School District of Osceola County received a base per-pupil expenditure of $8,629 (FLDOE, 2021). The Edgenuity program evaluation found the cost of one hour of instruction in a secondary school classroom to be approximately $6.77 (Maddock, 2023). Students spend approximately 148.6 hours in Tier 1 reading instruction, so it would take approximately $1006 in employee wages to remediate a student who was a one year behind.

Achieve3000 data reports include the change in reading grade level. Based on this metric, students in the 2022-2023 school year gained 11,540 years of learning. Using the value of $1006 for one year of learning, results in $11,609,240 costs of teacher time avoided by using Achieve3000.

Comparing a benefit of $11,609,240 and cost of $1,811,554 results in a benefit cost ratio of 6.41:1 or a return on investment of 541%.

Hours of learning was a metric provided in Achieve3000 and to some extent is designed to measure growth in the program. However, a regression analysis was conducted to control for other factors and isolate the impact of Achieve3000. This model found that Achieve3000 could be found to be associated with 38% of the yearly Lexile growth. Taking 38% of the 11,540 years of learning and multiplying it by $1006 results in $4,411,511 avoided by using Achieve3000. Using this as the benefit of the program and recalculating results in a benefit to cost ratio of 2.45 and a ROI of 145%.

Discussion & Conclusion

Statistical results indicated Achieve3000 had a small effect with regards to increasing Lexile scores and a small effect in seventh grade with increasing FAST ELA scores. Statistical tests did not reveal an effect with regards to increasing FAST ELA scores in sixth or eight grades. Despite the small effect size, Achieve3000 had a large positive return on investment. Teacher survey results and usage data reveal that the program is not being used to its fullest potential with only a small portion of students using Achieve3000 with fidelity and less than half of teachers reporting grading thought questions or utilizing stretch lessons often. Limitations of this study include that the metric used to calculate return on investment was an internal measure provided by Achieve3000. Overall, this study is consistent with past studies on Achieve3000 showing some effect on achievement in ELA.