RESEARCH STUDY
PUBLISHED NOVEMBER 2019

STEMscopes™
THE LEADER IN STEM EDUCATION

Comparing 5th Grade Proficiency on the Mississippi Academic Assessment Program for STEMscopes and Non-STEMscopes Districts

This study compares school districts that used STEMscopes and districts that did not use STEMscopes on the science component of the 2019 Mississippi Academic Assessment Program (MAAP). Districts were identified as STEMscopes districts if they had a subscription to STEMscopes for the students in the tested grades (i.e., 5th grade) and showed usage of STEMscopes based on the analytics data. In 2019, a new version of the MAAP science assessment that reflected the updated science standards was administered. The state of Mississippi creates benchmarks for proficiency in science and assesses students using five levels: minimal, basic, passing, proficient, and advanced. The district's proficiency rate is defined as the percentage of students who were proficient or advanced in science.

ELEMENTARY SCHOOL RESULTS

The state average proficiency rate for all Mississippi school districts that included 5th grade (N = 142) was 51%. Of these districts, 45 districts used the STEMscopes science curriculum during this school year, and 97 districts used either a district-created science curriculum or purchased a different science curriculum. The rates of proficiency for these two groups of districts are shown in the table below. The average proficiency rate for the STEMscopes districts was 54%, and the average proficiency rate for the non-STEMscopes districts was 50%.

2019 MAAP Science Proficiency Rates

	Proficient
STEMscopes Districts (n=45)	54%
Non-STEMscopes Districts (n=97)	50%

FOLLOW-UP ANALYSIS ON ELEMENTARY RESULTS

Follow-up analyses were conducted to ensure that these differences remained statistically significant after accounting for other important variables that influence student achievement. Specifically, multiple regression analysis was utilized to recalculate these proficiency rates, taking into account 2018 proficiency rates as well as important district demographics, including the number of students, student demographic information, graduation rate, percentage of experienced principals and teachers, prevalence of chronic absenteeism, and incidents of violence.

Results showed that, after accounting for these important variables, districts that used STEMscopes had significantly higher overall science proficiency rates compared to districts that did not use STEMscopes (see table below). Specifically, STEMscopes districts had a weighted proficiency rate of 54%, and non-STEMscopes districts had a weighted proficiency rate of 51%. In other words, **using the STEMscopes curriculum increased proficiency rates by 3 percentage points, on average.**

2019 MAAP Science Proficiency Rates, Accounting for Important Variables

	Elementary Proficiency
STEMscopes Districts (n=45)	54%
Non-STEMscopes Districts (n=97)	51%

CONCLUSION

Districts that used STEMscopes had higher 5th grade proficiency rates than districts that did not use STEMscopes. After controlling for previous year achievement and several important demographic variables, the analysis found that STEMscopes districts increased the proficiency rate of their students by 3 percentage points more than non-STEMscopes districts, resulting in an additional 382 students considered proficient. These findings show continued evidence that STEMscopes is associated with increases in student science achievement.