

Comparing Science Proficiency on the Georgia Milestones Assessment System 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 Georgia Milestones Assessment System. Districts were identified as STEMscopes districts if they had a subscription to STEMscopes for students in 5th grade and showed usage of STEMscopes based on the analytics data. The state of Georgia creates benchmarks for proficiency in science and identifies students within four levels (beginner, developing, proficient, and distinguished learner). For the purposes of this study, the district's proficiency rate was defined as the percentage of students who were proficient or distinguished in science.

SCIENCE PROFICIENCY

The [state average proficiency rate for all Georgia school districts](#) that included 5th grade (N = 179) was 39.4%. Of these districts, 54 districts used the STEMscopes science curriculum during this school year, and 125 districts used either a district-created science curriculum or purchased a different science curriculum. As displayed in the table below, STEMscopes districts increased their science proficiency by 3.4 percentage points, compared to non-STEMscopes districts which increased by 1.9 percentage points.

2019 5th Grade Science Proficiency Rates for STEMscopes and non-STEMscopes Districts

	2018 Proficiency	2019 Proficiency	Change
STEMscopes Districts	36.3%	39.7%	3.4
Non-STEMscopes Districts	37.4%	39.3%	1.9

FOLLOW-UP ANALYSIS

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 2017 and 2018 proficiency rates as well as demographic information of students (i.e., race/ethnicity, socioeconomic status, LEP status).

Results showed that, even after accounting for these important variables, districts that used STEMscopes continued to have 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 2.3 percentage points higher in elementary school. In other words, **using the STEMscopes curriculum increased elementary proficiency rates by 2.3 percentage points.**

2019 Science Proficiency Rates, Accounting for Important Variables

	Elementary Proficiency
STEMscopes Districts	41.1%
Non-STEMscopes Districts	38.7%

CONCLUSION

Districts that used STEMscopes had higher 5th grade proficiency rates than districts that did not use STEMscopes. Controlling for previous year achievement and several important demographic variables, STEMscopes districts increased the proficiency rate of their students by 2.3 percentage points in elementary school, resulting in an additional 22,303 students considered proficient. These findings show continued evidence that STEMscopes is associated with increases in student science achievement.

