National Alliance for Partnership in Equity (NAPE)
Student Outcomes: 2015–2016

Department of
Research and Evaluation
AUSTIN INDEPENDENT SCHOOL DISTRICT

Executive Summary

The purpose of this report is to examine how the National Alliance for Partnerships in Equity's (NAPE) Micromessaging to Reach and Teach Every Student™ professional development training program may have influenced students' achievement and interest in the science, technology, engineering, and math (STEM) field.

The impact of NAPE was assessed using State of Texas Assessments of Academic Readiness (STAAR), course enrollment, and high school endorsement selection data. Because the intention of NAPE's training is to decrease gaps seen in the STEM fields, only students who were enrolled in a science, math, or STEM-related career and technical education (CTE) course with a teacher trained by NAPE were considered students influenced by NAPE. Each outcome was examined according to race, gender, limited English proficiency (LEP), special education, and economic disadvantaged status to assess performance by various underserved groups in the STEM field.

While a similar comparison group was not created, differences in science STAAR results, STEM course enrollment, and endorsement selection were examined in relation to district average results. However, these comparisons are descriptive because the district average subgroup differed demographically from the NAPE-influenced sample and included students who were enrolled in a course with a teacher who completed the NAPE professional development training. Math STAAR normal curve equivalent score (NCE) results were examined in relation to NCE growth from the 2014–2015 to the 2015–2016 academic year and NCE growth from the 2013–2014 to the 2014–2015 academic year for NAPE-influenced students.

Enrolling in a course with a NAPE-trained teacher appeared to show a positive relationship with math STAAR growth, compared with growth the year immediately prior. Examined by underrepresented subgroups in the STEM field (i.e., female, Black, Hispanic, LEP, economically disadvantaged, and receiving special education services), NAPE-influenced students tended to show greater growth in math than they did in the year prior. NAPE-influenced 8th-grade students had lower science STAAR NCE scores than did district 8th-grade students overall; mixed results were seen when examining science STAAR results for student subgroups. The analysis of course enrollment showed positive results for advanced core science enrollment and elective math enrollment. Finally, rising 8th-grade NAPE-influenced students in overrepresented groups in the STEM field selected the STEM endorsement at higher rates than did the district's rising 8th-grade students on average, whereas rising 8th-grade NAPE-influenced students in underrepresented groups in the STEM field selected the STEM endorsement at lower rates than did the district's rising 8th-grade students on average.

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Introduction

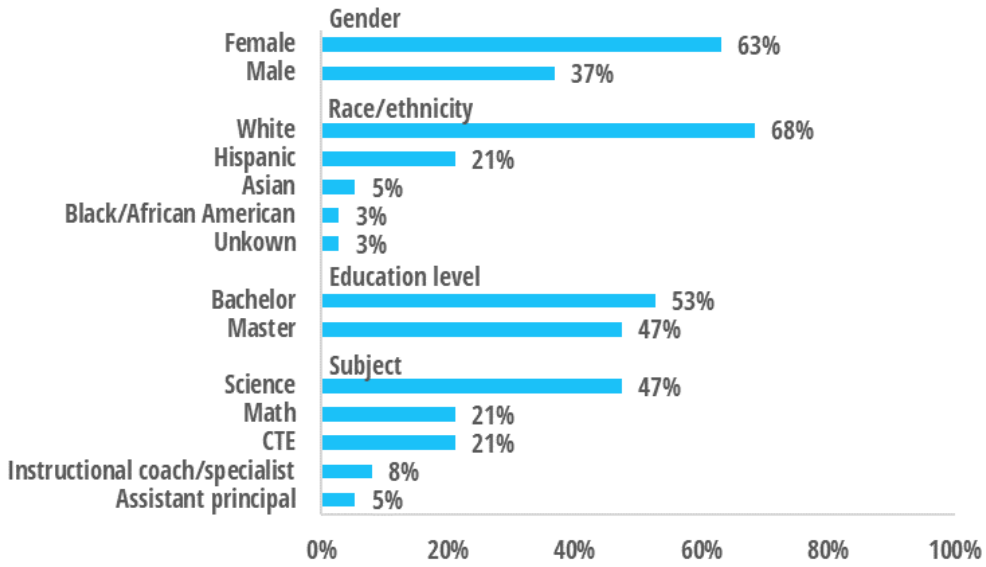
Beginning in the 2014–2015 school year, the Austin Independent School District (AISD) collaborated with the National Alliance for Partnerships in Equity's (NAPE) to provide AISD staff with NAPE's professional development program, Micromessaging to Reach and Teach Every Student™. This program addresses the influence of small and often subconscious cues (e.g., tone of voice, word choice, and bodily gesture) individuals send and receive, due to implicit bias, with the intention of increasing micro-affirmation (positive micromessages) and decreasing micro-inequalities (negative micromessages) (NAPE, 2015). Within the classroom structure, decreased micro-inequalities may encourage students to pursue nontraditional career paths. The goal of the training at AISD is to increase enrollment and achievement and to decrease the gap between historically underserved groups (e.g., female, Hispanic, and economically disadvantaged students) in science, technology, engineering, and math (STEM) fields.

In the 2015–2016 school year, NAPE provided training to staff at eight schools. The current report provides an overview of the staff who completed the NAPE professional development training in the 2015–2016 school year and students who were enrolled in a STEM course instructed by those teachers in the 2015–2016 school year.

Which teachers received NAPE training?

NAPE staff recruited principals, who then recruited teachers to participate in NAPE's professional development program. A total of 38 staff completed the NAPE training in 2015–2016. The majority of NAPE-trained staff were female or White (Figure 1). Most trained staff were teachers who taught science (47%). While the majority of trained staff were middle school teachers, an assistant principal, an elementary school teacher, and several instructional coach/specialists also attended and completed the NAPE training. The average years of AISD employment among NAPE participants ranged from 1.0 year to a total of 33.0 years, with an average of 8.2 years of experience.

Figure 1.
The majority of NAPE-trained teachers were female or White in the science field.



Source. AISD staff records
Note. Percentages may not total 100 due to rounding. Staff who attended the NAPE training may have instructed more than one subject.

Who were the students included in the analysis?

Middle school students who were enrolled in a STEM course with a teacher who completed the NAPE professional development training in 2015–2016 (NAPE-influenced students) for more than seven months and who had 2013–2014 to 2015–2016 State of Texas Assessments of Academic Readiness (STAAR) records were included in the analysis. Propensity score matching was attempted to create a similar comparison group; propensity score matching can be used to create a quasi-experimental design by matching students in a treatment group to other students with a similar likelihood of being assigned to the treatment condition when accounting for covariates. However, due to the nature of the professional development training and the number of schools with staff who received the NAPE training, the sample of non-NAPE-influenced students was too small to create a similar comparison group. NAPE-influenced students who attended Kealing Middle School were not included in the analysis because various teachers from this school participated in the program both years; therefore, students may have been influenced by the NAPE professional development training in the 2014–2015 and 2015–2016 academic years. NAPE-influenced students included in the following analysis were enrolled in schools with teachers who attended the NAPE professional development training in the 2015–2016 academic year only; Kealing was the only school with teachers who attended in the 2014–2015 and 2015–2016 academic years. Additionally, students in elementary school were removed from the analysis because only one elementary teacher participated in the NAPE training. Instead, the potential influence of the NAPE professional development training was evaluated by analyzing whether differences in math STAAR growth was seen between the current year and the year immediately prior. District averages for similar students were computed for the science STAAR, STEM course enrollment, and STEM high school endorsement selection. However, these comparisons were descriptive because the district sample differed from the NAPE-influenced sample (Figure 2), and district students included students enrolled in a course with a teacher who had completed the NAPE training; significance testing was not conducted between NAPE-influenced students and the AISD averages.

Compared with the AISD 6th- to 8th-grade students in 2015–2016, most students who enrolled in a course instructed by a NAPE-influenced teacher were Hispanic and in the 8th-grade (Figure 2). Special education, limited English proficiency (LEP), and economically disadvantaged students were underrepresented within the NAPE-influenced student group, compared with the AISD 6th- to 8th-grade student sample.

Data Analyzed in This Report

Math STAAR

Differences in math STAAR growth the year following enrollment in a course with a NAPE-trained teacher and the year immediately prior were analyzed using math STAAR normal curve equivalent (NCE) scores. Growth was computed by subtracting 2014–2015 math STAAR NCE scores from 2013–2014 (growth the year immediately prior to enrollment in a course with a NAPE-trained teacher) and subtracting 2015–2016 NCE scores from 2014–2015 NCE scores (growth following enrollment in a course with a NAPE-trained teacher).

Science STAAR

2015–2016 science STAAR NCE scores were analyzed to compare 8th-grade NAPE-influenced students and the district averages.

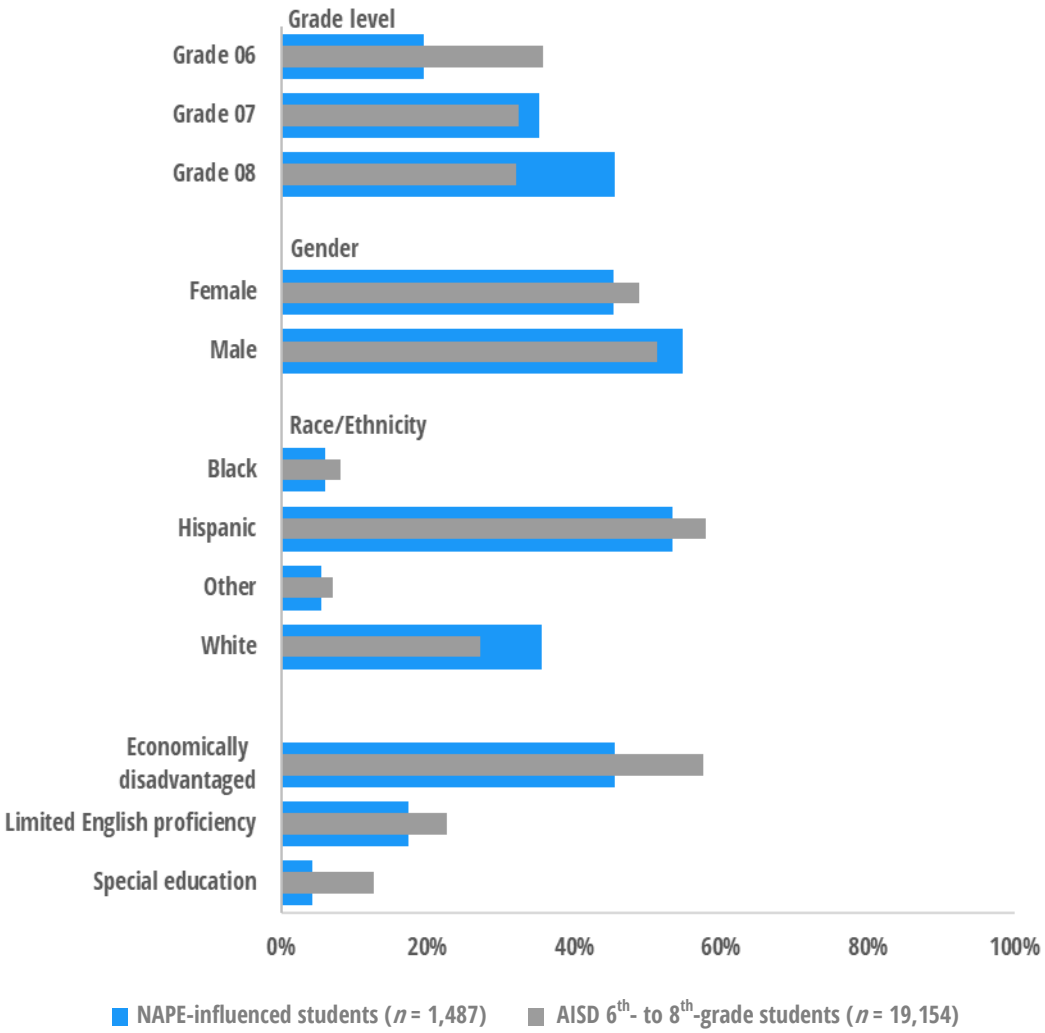
Course Enrollment

The percentage change in enrollment in math and science advanced core courses and enrollment in elective math, science, and STEM-related career and technical education (CTE) courses in the 2015–2016 academic year (enrollment prior to completing a course with NAPE-trained teacher) and the 2016–2017 academic year (enrollment following completing a course with a NAPE-trained teacher) were examined.

Endorsement Selection

The percentage of 8th–grade NAPE-influenced students who enrolled in the 9th grade in 2016–2017 (academic year immediately following enrollment in a course instructed by a NAPE-trained teacher) and selected the STEM endorsement were examined in comparison with the district average.

Figure 2.
The majority of NAPE-influenced students were Hispanic or in the 8th-grade.



Source. AISD student records
Note. Percentages may not total 100 due to rounding.

How did NAPE-influenced students perform on the math STAAR?

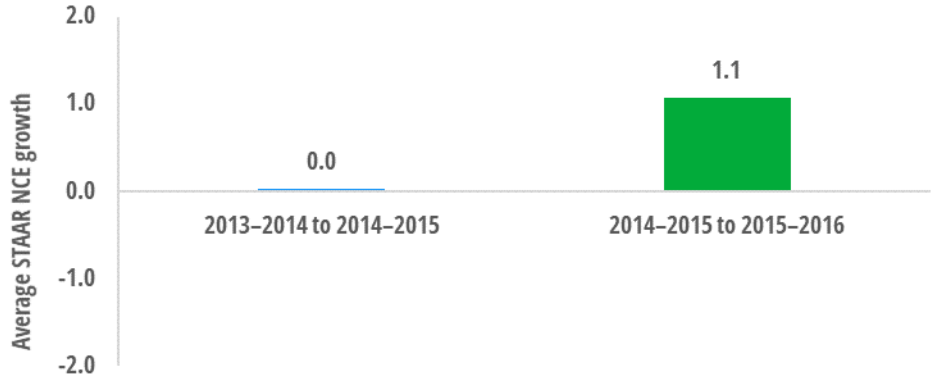
A total of 1,487 students had 2013–2014 to 2015–2016 STAAR records and were included in the analysis pertaining to math growth. Math growth was determined by subtracting 2015–2016 NCE scores from 2014–2015 NCE scores and 2014–2015 NCE scores from 2013–2014 NCE scores. In 2015–2016, 81% of students passed the math STAAR. Figure 3 shows that NAPE-influenced students showed a 1.1 gain in NCE scores from 2014–2015 to 2015–2016, indicating they gained more than a year of expected progress in math after completing a course instructed by a NAPE-trained teacher. NAPE-influenced students showed a 0.0 gain in NCE from 2013–2014 to 2014–2015, indicating they showed the expected progress in math the year immediately prior to completing a course instructed by a NAPE-trained teacher. A paired sample *t* test did not show a significant difference in math STAAR growth after completing a course instructed by a NAPE-trained teacher, compared with growth in the year immediately prior.

Normal Curve Equivalent (NCE)

The NCE was generated for students' STAAR scores. Similar to percentile ranks, numbers range from 0 to 100 on the NCE line, with a standard deviation of 21.06 (Central Rivers Area Education Agency 267, 2017). The advantages of NCE scores include allowing scores to be averaged, compared across time, and tested for significance. For the purposes of this report, average STAAR NCE scores were used to assess gains/losses in math achievement by subgroups (e.g., race, gender). In regard to gains/losses, a 0 is interpreted as students making the expected amount of progress during an academic year. Students who make more than 1 year of progress will have positive scores, showing a net gain in NCE scores, while students who make less than a year of progress will have negative scores, showing a net loss in NCE scores.

Figure 3.

NAPE-influenced students showed greater math STAAR growth upon completing a course with a NAPE-trained teacher (2014–2015 to 2015–2016) than in the year prior (2013–2014 to 2014–2015).

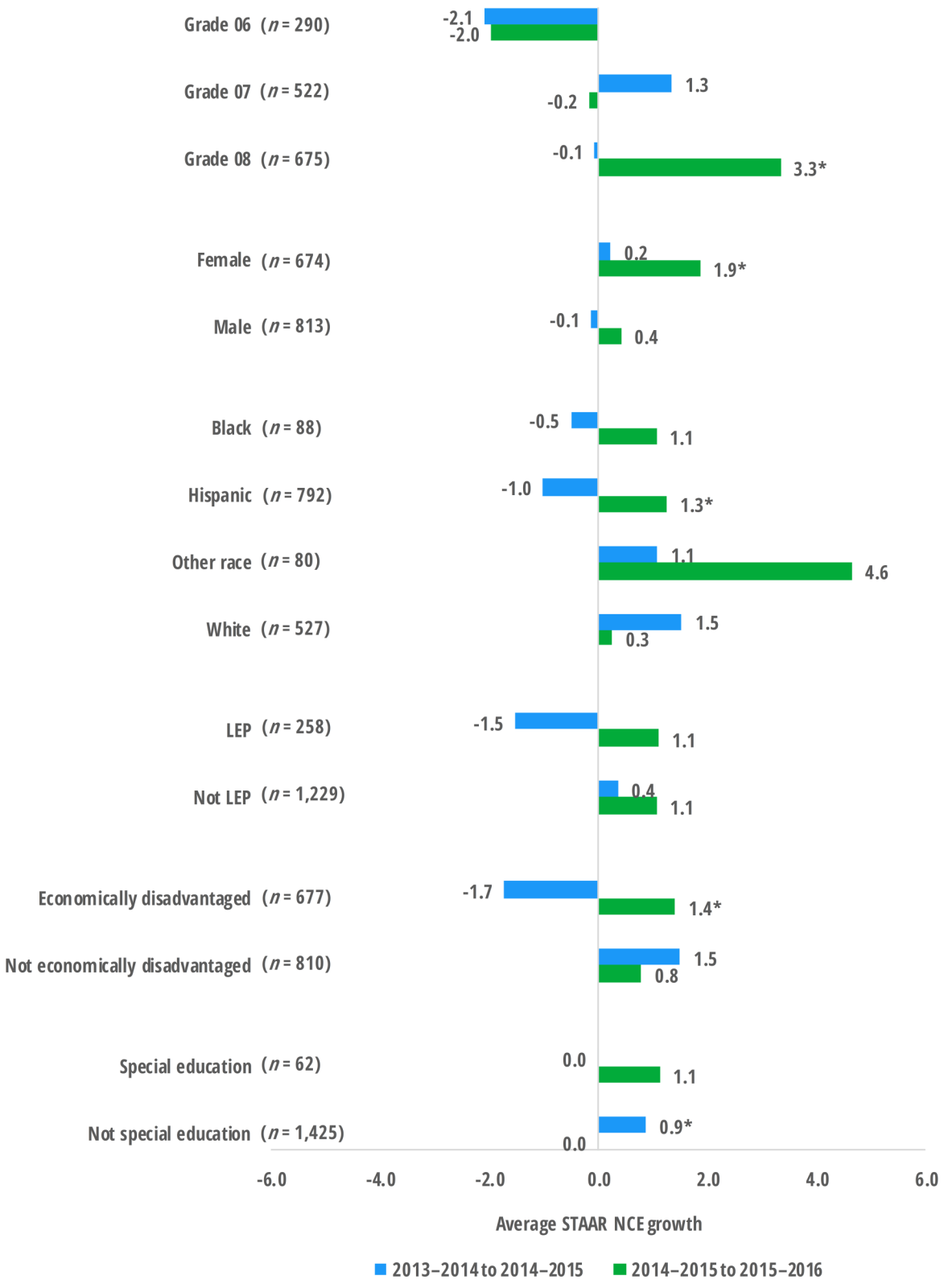


Source. AISD STAAR records

Note. The sample included students who were enrolled in a course instructed by a teacher who completed the NAPE professional development training in the 2015–2016 academic year (n = 1,487). STAAR scores were converted to NCE scores. Growth was computed by subtracting 2014–2015 NCE scores from 2013–2014 math STAAR NCE scores and subtracting 2015–2016 NCE scores from 2014–2015 NCE scores.

Figure 4 shows changes in math STAAR NCE growth, for each subgroup, for students who had completed a course instructed by a NAPE-trained teacher and compared with NCE growth in the year prior to that. The math STAAR growth of students who were in the 8th grade, Hispanic, female, or economically disadvantaged were significantly higher in the year when enrolled in a course instructed by a NAPE-trained teacher than in the year prior. Only NAPE-influenced students who were not identified as receiving special education services showed significantly higher growth prior to enrolling in a course with a NAPE-trained teacher. While not significantly different, the majority of subgroups also showed expected or greater-than-expected progress in math after enrolling in a course with a NAPE-trained teacher (2014–2015 to 2015–2016). However, in the year prior, several subgroups showed expected or less-than-expected growth in math, including students in underrepresented subgroups (i.e., Black, Hispanic, female, LEP, economically disadvantaged, and receiving special education services). It should be noted that student subgroups that showed greater math growth the year prior to enrolling in a course with a NAPE-trained teacher were overrepresented in the STEM field (i.e., White, not economically disadvantaged, not receiving special education services). Overall, the majority of NAPE-influenced subgroups showed more than a year of expected progress in math after completing a course with a NAPE-trained teacher than they did the year prior.

Figure 4.
Average Math STAAR NCE Score Growth, by Student Subgroup

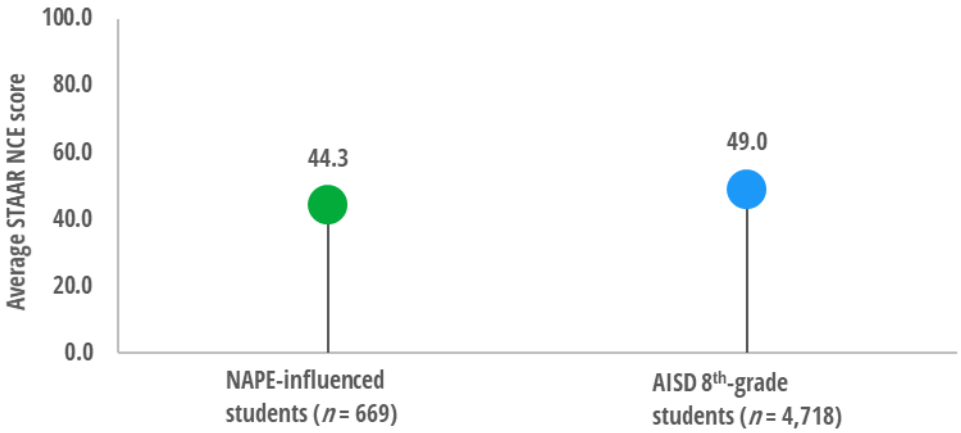


Source. AISD STAAR records
Note. The sample included students who were enrolled in a course instructed by a teacher who completed the NAPE professional development training in the 2015–2016 academic year. STAAR scores were converted to NCE scores. Growth was computed by subtracting 2014–2015 NCE scores from 2013–2014 math STAAR NCE scores and subtracting 2015–2016 NCE scores from 2014–2015 NCE scores. Other race includes American Indian or Alaska Native, Native Hawaiian or other Pacific Islander, two or more races, and Asian students. * statistically significant at $p < 0.05$ within subgroup.

How did NAPE-influenced students perform on the science STAAR?

The science STAAR is only taken by students enrolled in the 5th or 8th grade; therefore, a number of students did not have science STAAR records, and growth could not be computed for them. Instead, 8th-grade NAPE-influenced students' average science STAAR NCE scores were compared relative to all 8th-grade students in the district with STAAR records in the 2015–2016 academic year, which included NAPE-influenced students in the sample. A total of 669 NAPE-influenced students (45% of the analysis group) had science STAAR NCE scores and were included in the analysis; 78% of NAPE-influenced students passed the science STAAR in 2015–2016. As seen in Figure 5, NAPE-influenced students had average science NCE scores lower than the AISD 8th-grade district average science NCE scores.

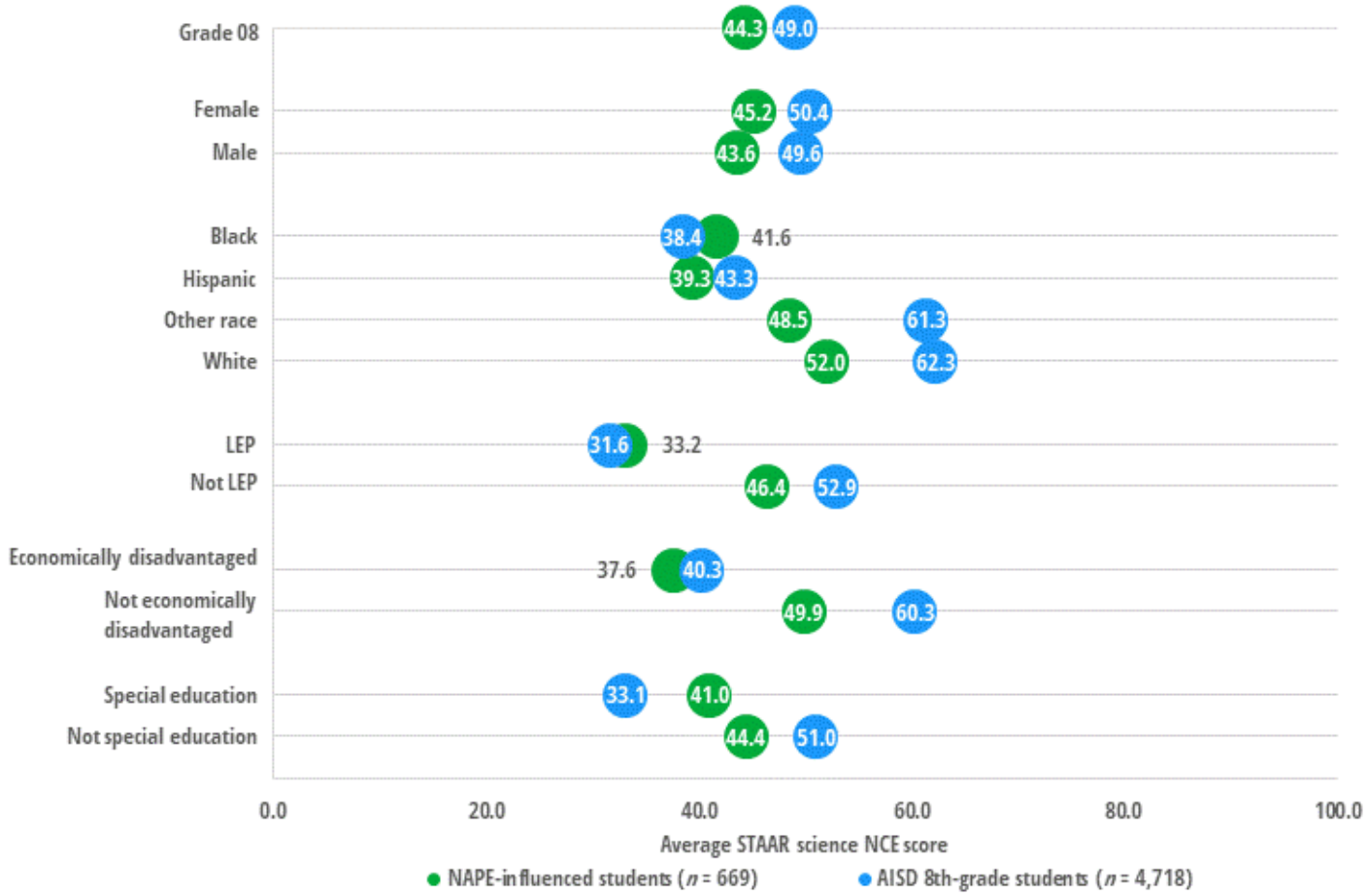
Figure 5.
AISD 8th-grade students had higher average science STAAR NCE scores than did NAPE-influenced students.



Source. AISD STAAR records
Note. NAPE-influenced students included students who were enrolled in a course instructed by a teacher who completed the NAPE professional development training in the 2015–2016 academic year. AISD 8th-grade students included all students with science STAAR records in the 2015–2016 academic year, including students who were previously enrolled in a course with a teacher who completed the NAPE professional development training in 2014–2015 or 2015–2016.

Figure 6 shows the average science STAAR NCE scores of NAPE-influenced students and all AISD 8th-grade students with science STAAR records in the 2015–2016 academic year, by various subgroups. NAPE-influenced students had average STAAR science NCE scores that were lower than the STAAR NCE scores of all AISD 8th-grade students across the majority of subgroups in 2015–2016. Several underrepresented subgroups of students in the STEM field (i.e., students who are Black, LEP, or receiving special education services) who were enrolled in a NAPE-trained teacher's course showed average science STAAR NCE scores higher than the AISD 8th-grade average. Slightly smaller gaps in NCE scores were seen for NAPE-influenced subgroups underrepresented in the STEM field (i.e. female, Hispanic, and economically disadvantaged) than for their overrepresented counterparts (i.e., male, White, and not economically disadvantaged students). For example, Hispanic NAPE-influenced students had an average science STAAR NCE score of 39.3, while Hispanic AISD 8th-grade students had an average of 43.3, a difference of 4 NCE scores. However, White NAPE-influenced students had a 52.0 average science NCE score while White AISD 8th-grade students had an average science STAAR NCE score of 62.3, a difference of 10.3 NCE score. See Appendix A for numbers of students included in each subgroup.

Figure 6.
Average Science STAAR NCE Scores, by Student Subgroup



Source. AISD student records
Note. NAPE-influenced students included students who were enrolled in a course instructed by a teacher who completed the NAPE professional development training in the 2015–2016 academic year. AISD 8th-grade students included any 8th-grade students with science STAAR records in the 2015–2016 academic year, including students who were enrolled in a course with a teacher who completed the NAPE professional development training in 2014–2015 or 2015–2016. Other race includes American Indian or Alaska Native, Native Hawaiian or other Pacific Islander, two or more races, and Asian students.

Did enrollment in STEM classes increase among NAPE-influenced students?

While 38 staff completed the NAPE professional development training, some did not instruct a STEM course in the 2015–2016 academic year. NAPE-trained staff who did not instruct a course held school leadership positions (i.e., assistant principal, instructional coach), which may have increased their influence on micromessaging within their specific campus. A total of 77 STEM-related courses were instructed by 29 NAPE-trained teachers, and of these, 12 courses instructed by a NAPE-trained teacher were CTE electives. Among the 24 math courses instructed by a NAPE-trained teacher, 21 were core courses and three were elective courses. A total of 41 science courses were instructed by a NAPE-trained teacher, and of these, 39 were core science courses, and two were elective courses. Finally, 38% of these were advanced classes (i.e., honors, pre-advance placement, or international baccalaureate [IB] course) relative to the student's grade level.

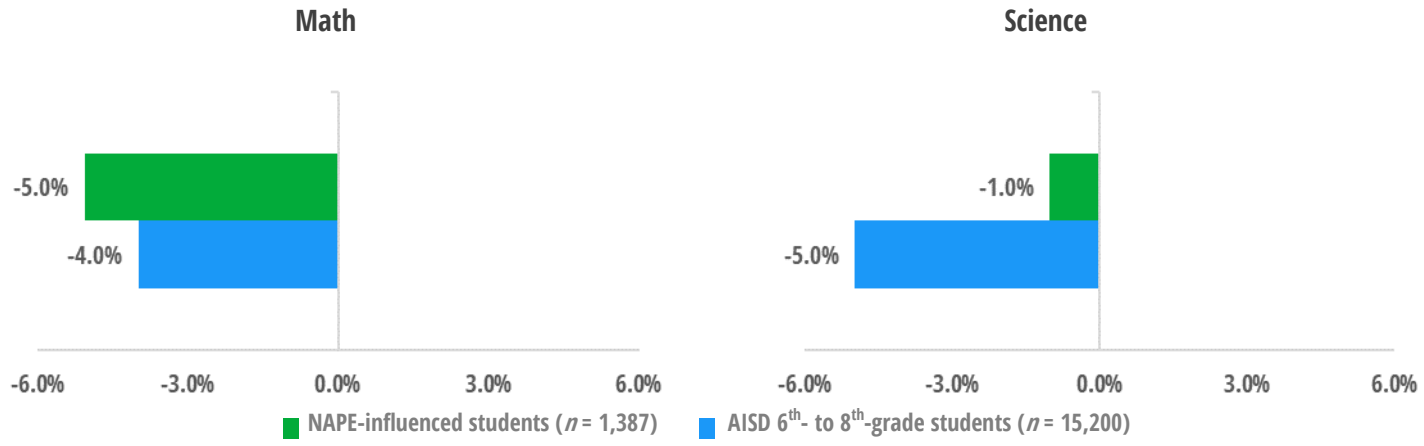
The following analysis examined differences in math, science, and STEM CTE course enrollment from the 2015–2016 to the 2016–2017 academic year. The analysis differentiated between elective and core math and science courses, as well as CTE courses. While most schools typically offered an advanced version of core classes (i.e., classes that students are required to complete), this was not the case for elective courses. Elective and CTE courses and enrollment in those

courses are determined by availability, based on students' schedules after considering core classes, students' interest in the course, and students' academic performance. A total of 1,387 (94%) NAPE-influenced students from the sample remained in the school district and had course enrollment records from the 2015–2016 to the 2016–2017 academic year. District averages that included students who were enrolled in a course with a NAPE-trained teacher in 2014–2015 or 2015–2016 were displayed, as well.

Advanced Core Math and Science Course Enrollment

Figure 7 displays changes in the percentage of NAPE-influenced students and AISD student enrolled in an advanced math and science course from the 2015–2016 to the 2016–2017 academic year. A -0.1% change in enrollment was seen in advanced core science course enrollment, and a -0.5% change was seen in advanced core math course enrollment among NAPE-influenced students. See Appendix A for enrollment in advanced core math and science classes for various student subgroups. Enrollment in an advanced core science course increased slightly during this period for several subgroups underrepresented in the STEM field (i.e., female, Hispanic, LEP, and economically disadvantaged students). However, the same results were not seen in advanced core math enrollment; enrollment in an advanced core math course decreased from the 2015–2016 to the 2016–2017 academic year. Overall, NAPE-influenced students in underrepresented groups in the STEM field (i.e., female, Black, Hispanic, economically disadvantaged, and receiving special education services) tended to show less of a decrease in enrollment in the respective subject than did their overrepresented NAPE-influenced counterparts (i.e., male, White, not economically disadvantaged, and not receiving special education services). For example, while math enrollment decreased among both economically disadvantaged and not economically disadvantaged NAPE-influenced students, enrollment decreased by -.1% among the economically disadvantaged, whereas a -4.9% decrease was seen among students who were not economically disadvantaged. NAPE-influenced 6th-grade students showed an increased enrollment in both math and science, whereas NAPE-influenced 8th-grade students showed a decrease in enrollment in both subjects. The majority of NAPE-influenced subgroups underrepresented in the STEM field showed a better enrollment change in advanced core math and science courses from the 2015–2016 to the 2016–2017 academic year, compared with the district (which included students enrolled in a course with a NAPE-trained teacher in 2014–2015 or 2015–2016) average enrollment change in advanced core math and science courses.

Figure 7.
Advanced Core Math and Science Course Enrollment

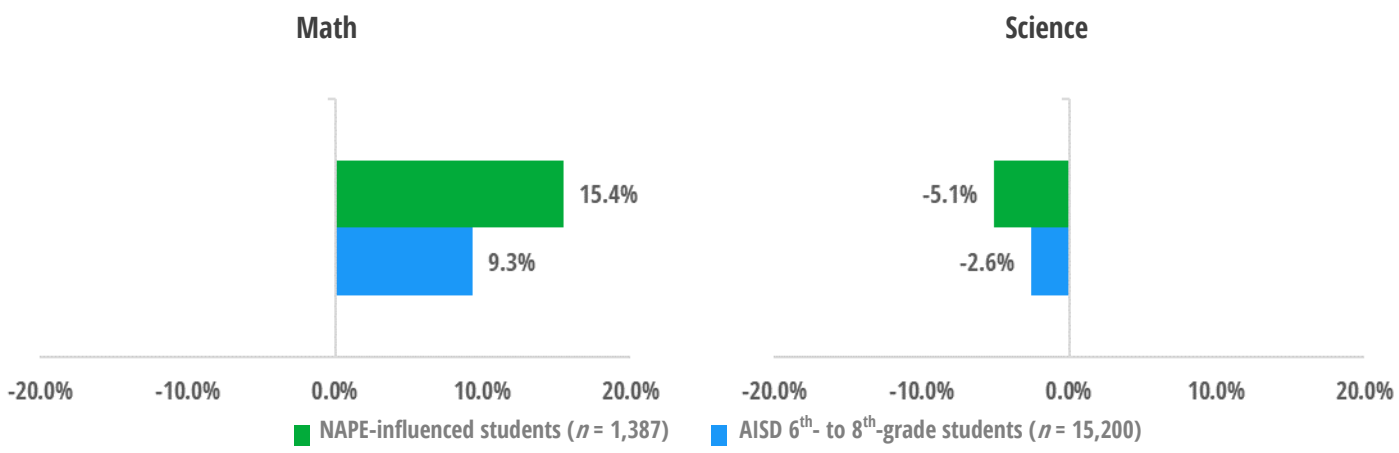


Source. AISD student records, 2015–2016 and 2016–2017
Note. Core courses are classes all students are required to complete. NAPE-influenced students included students who were enrolled in a course with a teacher who completed the NAPE professional development training in 2015–2016 and reenrolled in 2016–2017. AISD 6th- to 8th-grade students included students enrolled in AISD in 2015–2016 and reenrolled in 2016–2017, including students who were enrolled in a course with a teacher who completed the NAPE professional development training in 2014–2015 or 2015–2016.

Elective Math and Science Course Enrollment

Figure 8 displays changes in the percentages of NAPE-influenced students and AISD students enrolled in an elective math and science course from the 2015–2016 to the 2016–2017 academic year. A -5.1% change in enrollment was seen in elective science course enrollment, and a 15.4% increase in enrollment was seen in elective math course enrollment among NAPE-influenced students. See Appendix B for enrollment in elective math and science courses for various subgroups. Students who were Hispanic, economically disadvantaged, or not receiving special education services showed the largest increases in elective math enrollment the year immediately following enrollment in a class with a NAPE-trained teacher. Several NAPE-influenced subgroups that are underrepresented in the STEM field showed greater increase in elective math enrollment, compared with district average enrollment in elective math courses. In contrast, the majority of NAPE-influenced students showed a decrease or no enrollment change in elective science courses from the 2015–2016 to the 2016–2017 academic year. NAPE-influenced students in underrepresented groups in the STEM field (i.e., female, Hispanic, Black, LEP, economically disadvantaged, and receiving special education services) tended to show less of a decrease in elective science enrollment than did their overrepresented counterparts (i.e., male, White, not LEP, not economically disadvantaged, and not receiving special education services). NAPE-influenced student subgroups that are underrepresented in the STEM field showed similar or greater decreases in elective science courses, compared with the district average enrollment in elective science courses.

Figure 8.
Elective Math and Science Course Enrollment

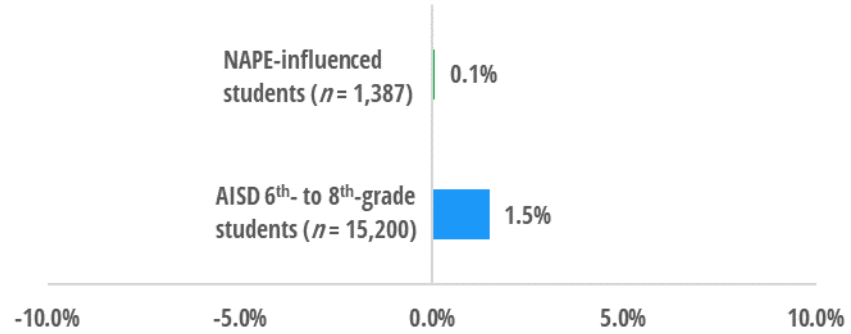


Source. AISD student records, 2015–2016 and 2016–2017
Note. Elective courses and enrollment in those courses are determined by availability, based on students' schedules after considering core classes, students' interest in the course, and students' academic performance. NAPE-influenced students included students who were enrolled in a course with a teacher who completed the NAPE professional development training in 2015–2016 and reenrolled in 2016–2017. AISD 6th- to 8th-grade students included students enrolled in AISD in 2015–2016 and reenrolled in 2016–2017, including students who were enrolled in a course with a teacher who completed the NAPE professional development training in 2014–2015 or 2015–2016.

STEM-Related CTE Course Enrollment

Figure 9 displays changes in the percentage of NAPE-influenced students enrolled in a STEM-related CTE course from the 2015–2016 to the 2016–2017 academic year; STEM-related CTE course enrollment increased by .1% among NAPE-influenced students. See Appendix C for changes in STEM-related CTE course enrollment from the 2015–2016 to the 2016–2017 academic year for subgroups. NAPE-influenced 8th-grade students showed the largest increase (6.3%) in STEM-related CTE course enrollment, whereas 7th-grade NAPE-influenced students showed the largest decrease (-5.6%) in enrollment. Aside from the female subgroup, the majority of underrepresented groups in the STEM field (i.e., Hispanic, LEP, economically disadvantaged, and receiving special education services) showed slight decreases in enrollment in STEM-related CTE courses. Mixed results were seen in student subgroups when comparing enrollment changes between NAPE-influenced students and district averages.

Figure 9.
STEM-Related CTE Course Enrollment

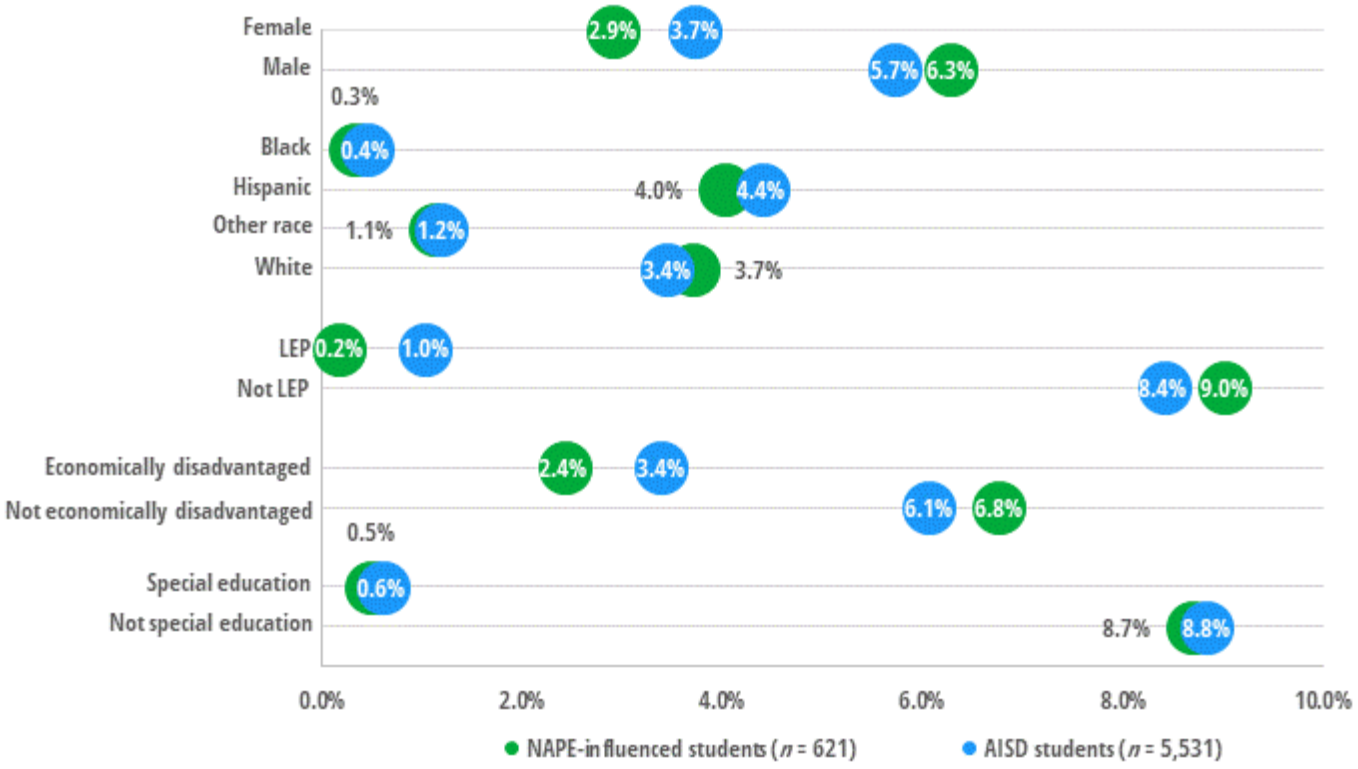


Source. AISD student records
Note. CTE courses and enrollment in those courses are determined by availability, based on students' schedules after considering core classes, students' interest in the course, and students' academic performance. NAPE-influenced students included students who were enrolled in a course with a teacher who completed the NAPE professional development training in 2015–2016 and reenrolled in 2016–2017. AISD 6th- to 8th-grade students included students enrolled in AISD in 2015–2016 and reenrolled in 2016–2017, including students who were enrolled in a course with a teacher who completed the NAPE professional development training in 2014–2015 or 2015–2016.

High School Endorsement Selection

Rising 8th-grade AISD students must select a minimum of one of the five high school graduation endorsement plans available. Because the goal of NAPE training is to increase STEM course enrollment by student groups underserved in the STEM field, the focus of this analysis was on students' selection of the STEM endorsement. Only 8th graders were included in the analysis because this group chose an endorsement in the year immediately following the NAPE professional development sessions. A total of 621 students of the original NAPE-influenced sample had records and were enrolled in the 9th grade in 2016–2017 and were included in the analyses exploring endorsement selection. Of these students, 9.2% chose the STEM endorsement, whereas an average of 9.4% of rising 8th-grade AISD students who reenrolled in 9th grade in 2016–2017 (which included students enrolled in a course with a NAPE-trained teacher in 2014–2015 or 2015–2016) chose the STEM endorsement. Mixed results were seen for STEM endorsement selection by subgroups (Figure 10). Only the NAPE-influenced Hispanic subgroup showed slightly higher selection of a STEM endorsement than did overrepresented subgroups in a STEM field (i.e., White subgroup). NAPE-influenced students in overrepresented subgroups in the STEM field (i.e., male, White, not LEP, not economically disadvantaged, and not receiving special education services) tended to select the STEM endorsement approximately equivalently or slightly more than did the district average. However, NAPE-influenced students in underrepresented subgroups (i.e., female, Black, Hispanic, LEP, economically disadvantaged, and receiving special education services) in the STEM field tended to select the STEM endorsement approximately equivalent to or slightly less than did AISD students of the same subgroup. See Appendix E for numbers of students included in each subgroup.

Figure 10.
STEM High School Endorsement Selection, by Student Subgroup



Source. AISD STAAR records
Note. NAPE-influenced students included 8th–grade students who were enrolled in a course with a teacher who completed the NAPE professional development training in 2015–2016 and reenrolled as a 9th–grade student in 2016–2017. AISD students included all 8th-grade students enrolled in AISD in 2015–2016 and reenrolled as 9th-grade students in 2016–2017, including students who were enrolled in a course with a teacher who completed the NAPE professional development training in 2014–2015 or 2015–2016. Other race includes American Indian or Alaska Native, Native Hawaiian or other Pacific Islander, two or more races, and Asian students.

Conclusion

The goal of providing the NAPE professional development training to AISD teachers is to decrease participation and performance gaps seen between various student groups in STEM fields. While a similar comparison group was not created, differences in science STAAR results, STEM course enrollment, and endorsement selection were examined in relation to district results. However, these comparisons are descriptive, and significance testing was not conducted because the district subgroup differed from the NAPE-influenced students demographically (Figure 2) and included students who were enrolled in a course with a teacher who completed the NAPE professional development training in 2014–2015 or 2015–2016. Math STAAR NCE results were examined in relation to math STAAR NCE growth from the 2014–2015 to the 2015–2016 academic year (math growth following enrollment in a course with a NAPE-trained teacher) and math STAAR NCE growth from the 2013–2014 to the 2014–2015 academic year (math growth the year immediately prior to enrollment in a course with a NAPE-trained teacher).

Math STAAR NCE growth was greater in several subgroups underrepresented in the STEM field (i.e., female, Black, Hispanic, LEP, economically disadvantaged, and students receiving special education services) from the 2014–2015 to the 2015–2016 academic year than from the 2013–2014 to the 2014–2015 academic year, compared with their overrepresented counterparts. The majority of NAPE-influenced subgroups showed more than a year of expected progress in math after completing a course with a NAPE-trained teacher, compared with growth the year prior. Mixed

results were seen when examining science STAAR NCE scores by subgroups; NAPE-influenced students who were Black, LEP, or receiving special education services outperformed the district's 8th-grade average.

Examining course enrollment, positive results were seen in advanced core science and elective math. The NAPE-influenced Hispanic, economically disadvantaged, and LEP subgroups showed an increase in enrollment in advanced core science courses, whereas the district total (which included students who were enrolled in a course with a teacher who completed the NAPE professional development training in 2014–2015 or the 2015–2016) and NAPE-influenced students in overrepresented subgroups showed a decrease in enrollment. While enrollment in elective math courses increased among total district and NAPE-influenced students, the majority of NAPE-influenced subgroups showed a larger increase in enrollment than did total district students. However, it is important to remember that aside from teachers, guidance counselors also may play a role in determining students' schedules, which could have influenced STEM course enrollment changes.

NAPE-influenced 8th-grade students in overrepresented subgroups in the STEM field tended to select the high school STEM endorsement at higher rates than did the district average. The opposite was seen among NAPE-influenced students in underrepresented subgroups in the STEM field. Although the endorsement analysis only examined whether a student selected the STEM endorsement, it should be noted that the business/industry endorsement offered at AISD included STEM topics, such as information technology and technology applications.

While this report examined the impact of the NAPE professional development training through students' STEM academic performance, course enrollment, and high school endorsement selection, other factors should be considered when evaluating the impact of NAPE's professional development training. For example, because the intent of the training is to address micromessages and decrease micro-inequalities in the classroom, an impact may also occur in non-STEM fields. Additionally, because the training addresses micromessages that may have negatively influenced students over the course of their school experience, the impact may take longer than a year to exhibit the expected results.

Appendix A

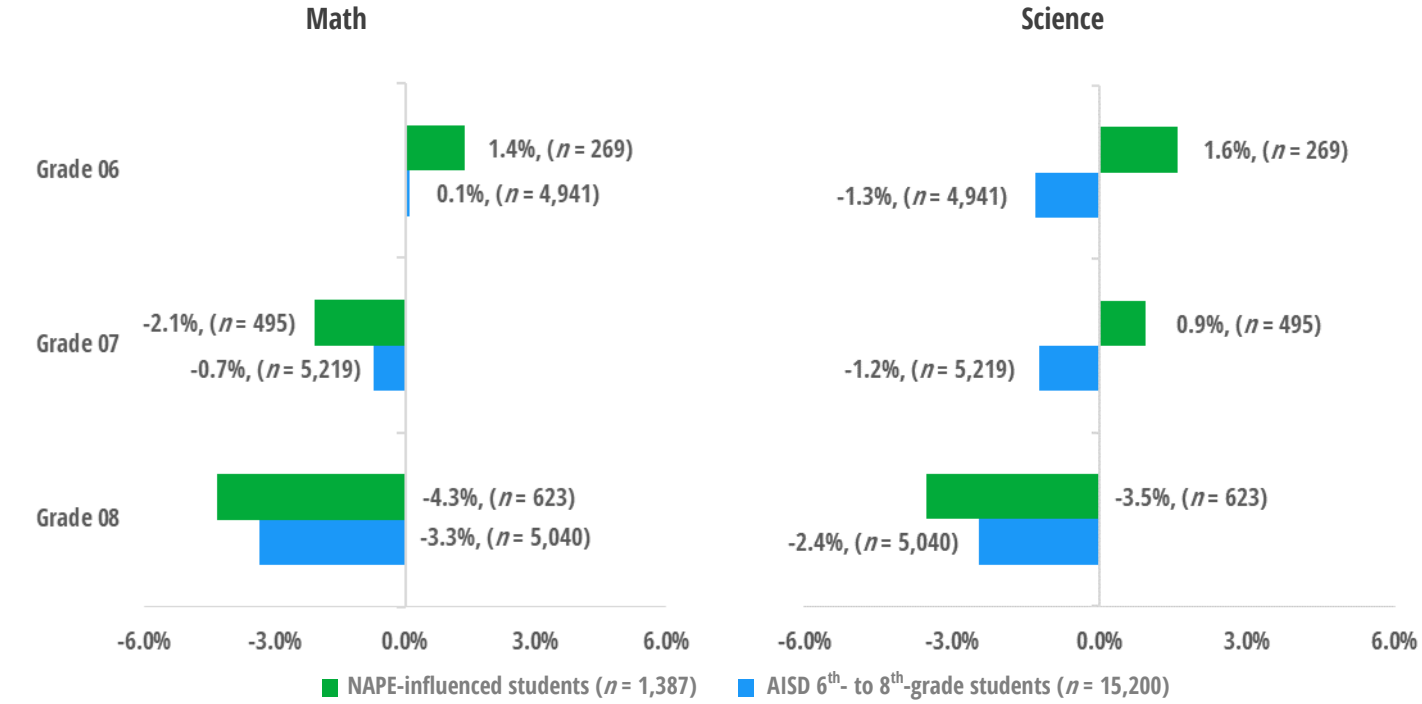
Science STAAR Student Sample

	NAPE-influenced students	AISD 8th-grade students
	n =	*n* =
Grade 08	669	4,718
Female	296	2,340
Male	373	2,378
Black	39	353
Hispanic	363	2,596
Other	44	349
White	223	1,420
LEP	106	643
Not LEP	563	4,075
Economically disadvantaged	305	2,423
Not economically disadvataged	364	2,295
Special education	32	257
Not special education	637	4,461
Total	669	4,718

Source. AISD student records
Note. NAPE-influenced students include students enrolled in the 8th grade. AISD 8th-grade students include all students enrolled in AISD, including students who were enrolled in a course with a teacher who completed the NAPE professional development training in 2014–2015 or 2015–2016.

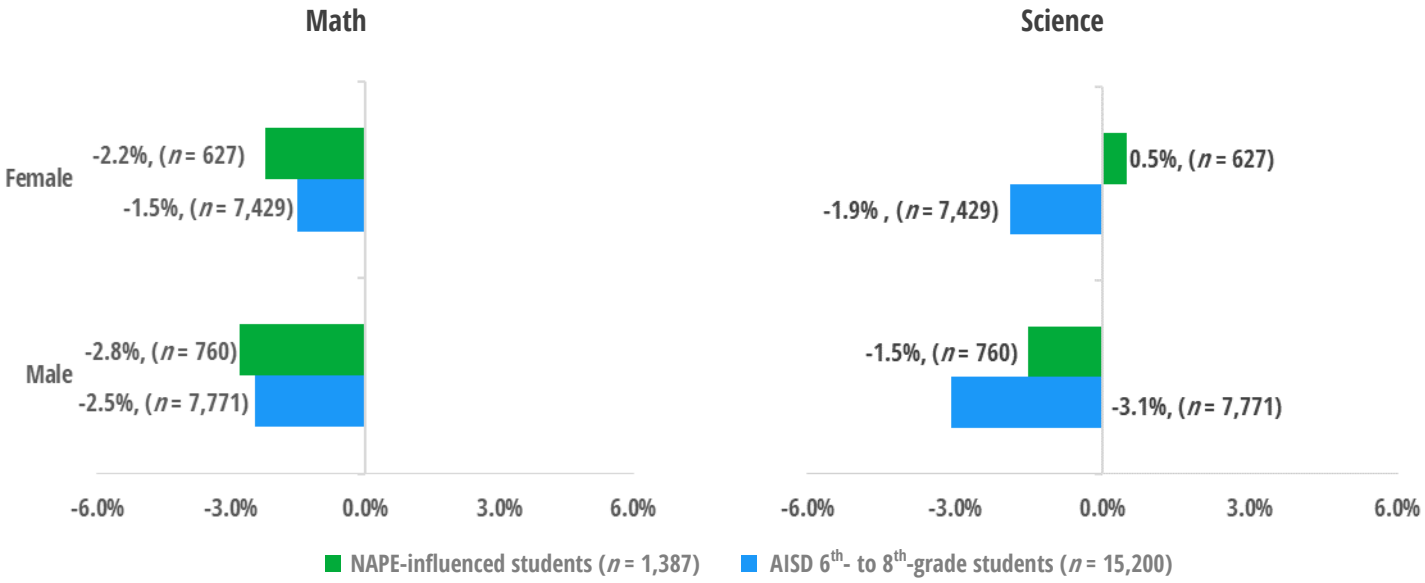
Appendix B

Advanced Core Course Enrollment, by Grade



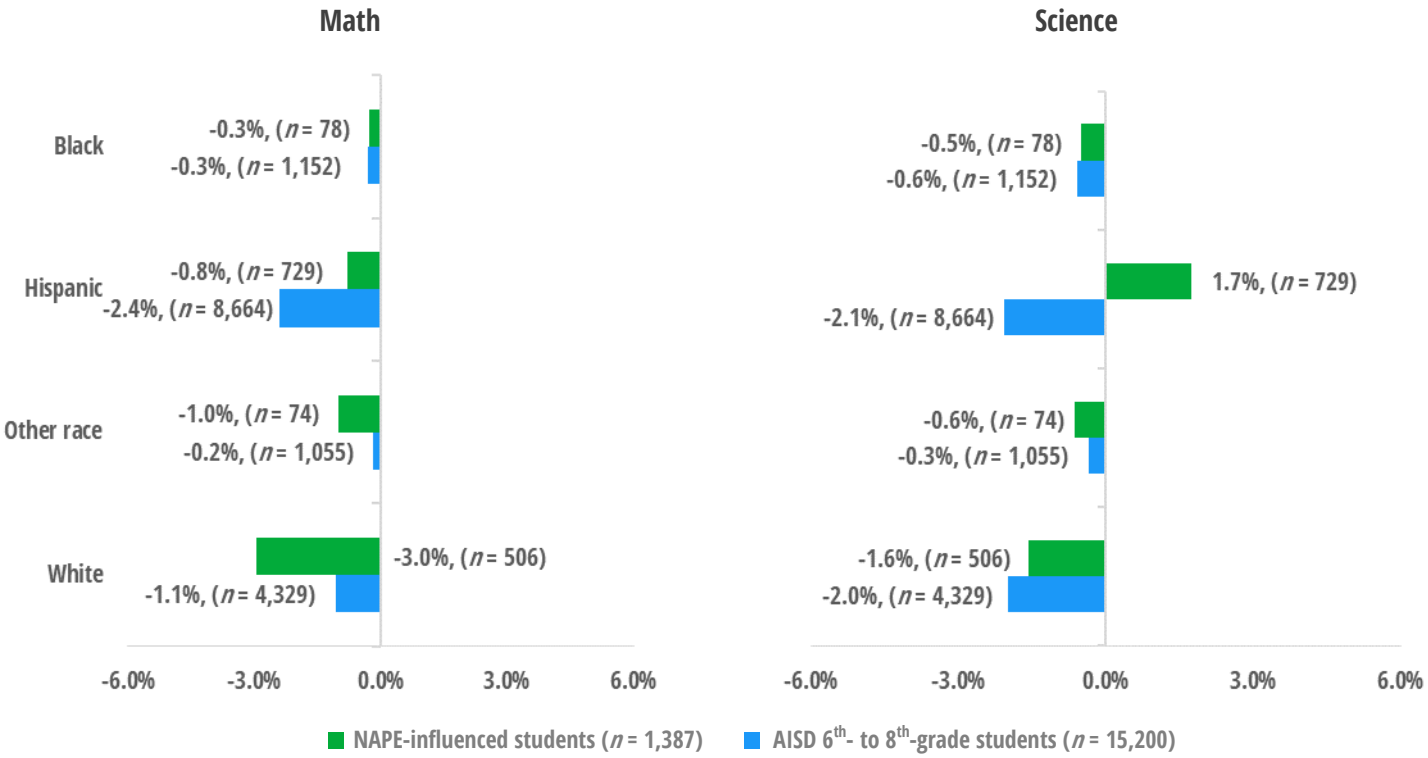
Source. AISD student records
Note. Core courses are classes all students are required to complete. NAPE-influenced students included students who were enrolled in a course with a teacher who completed the NAPE professional development training in 2015–2016 and reenrolled in 2016–2017. AISD 6th- to 8th-grade students included students enrolled in AISD in 2015–2016 and reenrolled in 2016–2017, including students who were enrolled in a course with a teacher who completed the NAPE professional development training in 2014–2015 or 2015–2016.

Advanced Core Course Enrollment, by Gender



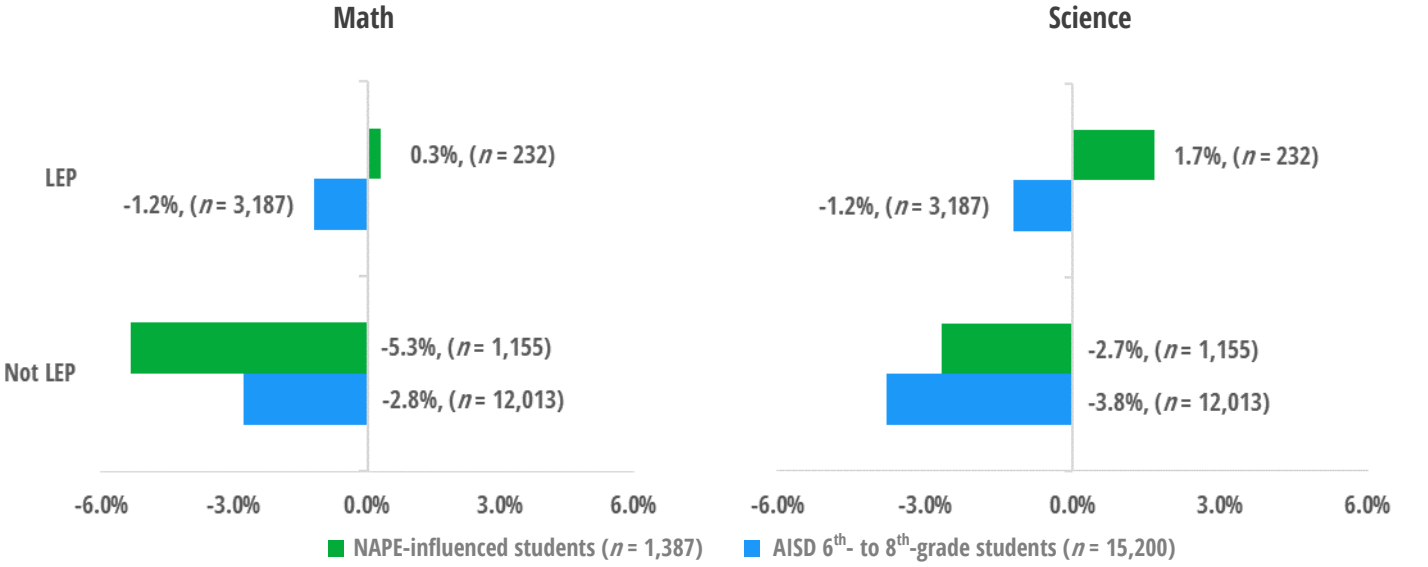
Source. AISD student records
Note. Core courses are classes all students are required to complete. NAPE-influenced students included students who were enrolled in a course with a teacher who completed the NAPE professional development training in 2015–2016 and reenrolled in 2016–2017. AISD 6th- to 8th-grade students included students enrolled in AISD in 2015–2016 and reenrolled in 2016–2017, including students who were enrolled in a course with a teacher who completed the NAPE professional development training in 2014–2015 or 2015–2016.

Advanced Core Course Enrollment, by Race



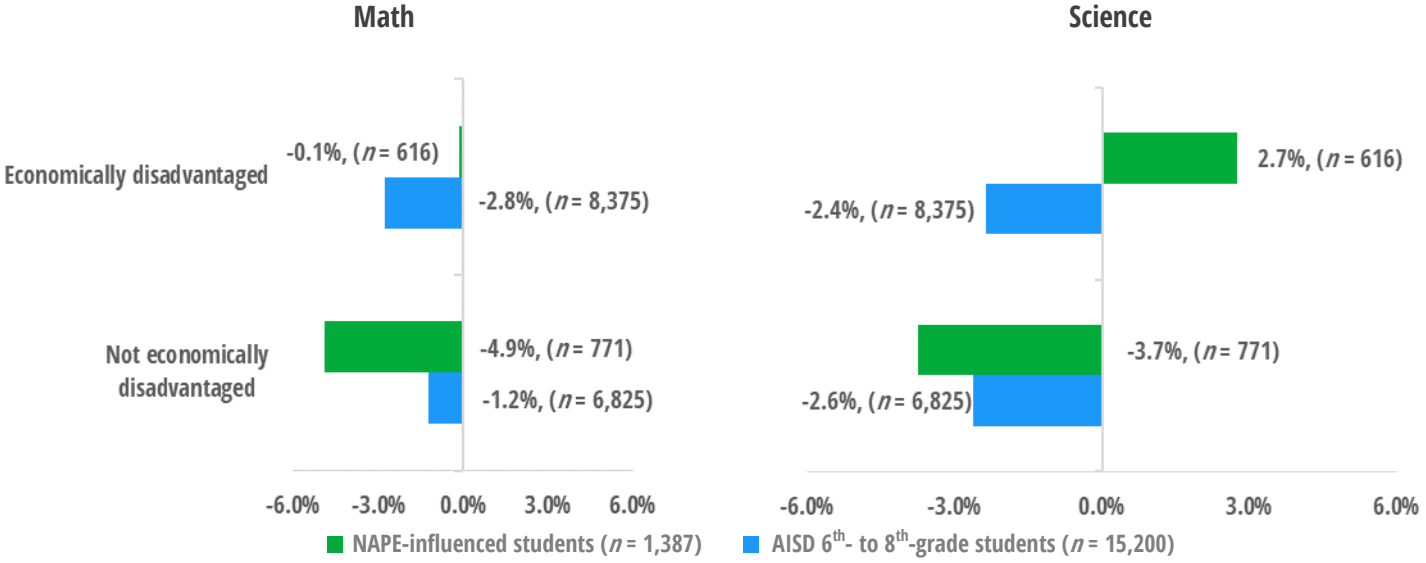
Source. AISD student records
Note. Core courses are classes all students are required to complete. NAPE-influenced students included students who were enrolled in a course with a teacher who completed the NAPE professional development training in 2015–2016 and reenrolled in 2016–2017. AISD 6th- to 8th-grade students included students enrolled in AISD in 2015–2016 and reenrolled in 2016–2017, including students who were enrolled in a course with a teacher who completed the NAPE professional development training in 2014–2015 or 2015–2016. Other race includes American Indian or Alaska Native, Native Hawaiian or other Pacific Islander, two or more races, and Asian students.

Advanced Core Course Enrollment, by LEP Status



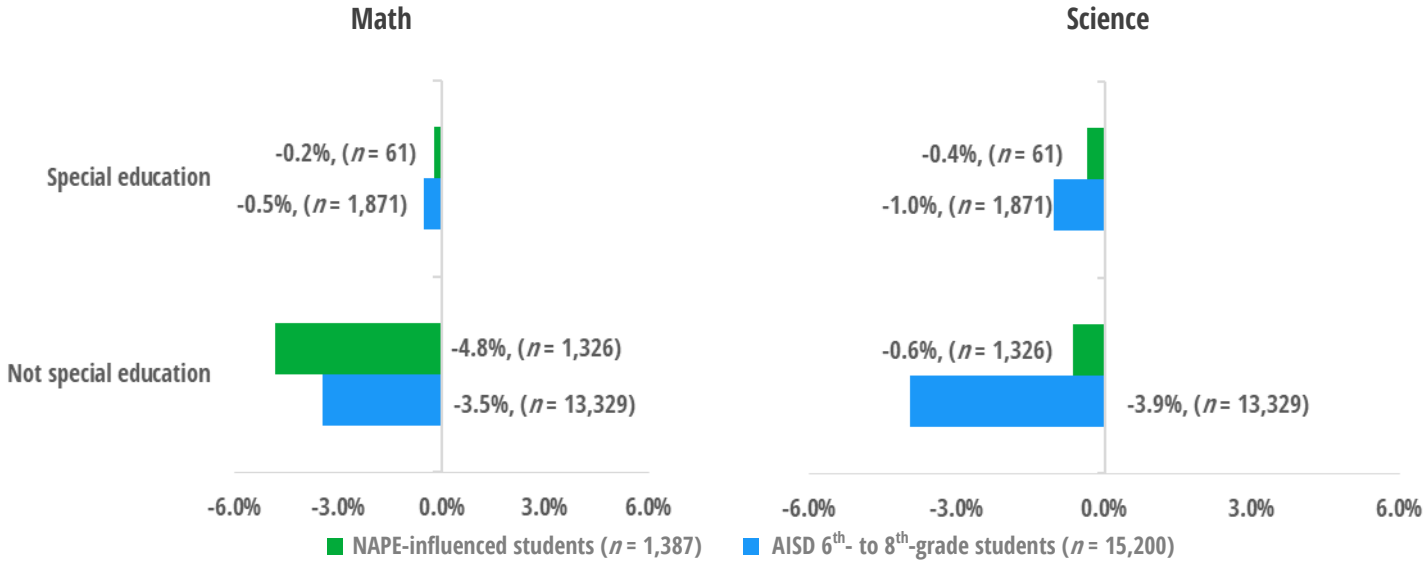
Source. AISD student records
Note. Core courses are classes all students are required to complete. NAPE-influenced students included students who were enrolled in a course with a teacher who completed the NAPE professional development training in 2015–2016 and reenrolled in 2016–2017. AISD 6th- to 8th-grade students included students enrolled in AISD in 2015–2016 and reenrolled in 2016–2017, including students who were enrolled in a course with a teacher who completed the NAPE professional development training in 2014–2015 or 2015–2016.

Advanced Core Course Enrollment, by Economically Disadvantaged Status



Source. AISD student records
Note. Core courses are classes all students are required to complete. NAPE-influenced students included students who were enrolled in a course with a teacher who completed the NAPE professional development training in 2015–2016 and reenrolled in 2016–2017. AISD 6th- to 8th-grade students included students enrolled in AISD in 2015–2016 and reenrolled in 2016–2017, including students who were enrolled in a course with a teacher who completed the NAPE professional development training in 2014–2015 or 2015–2016.

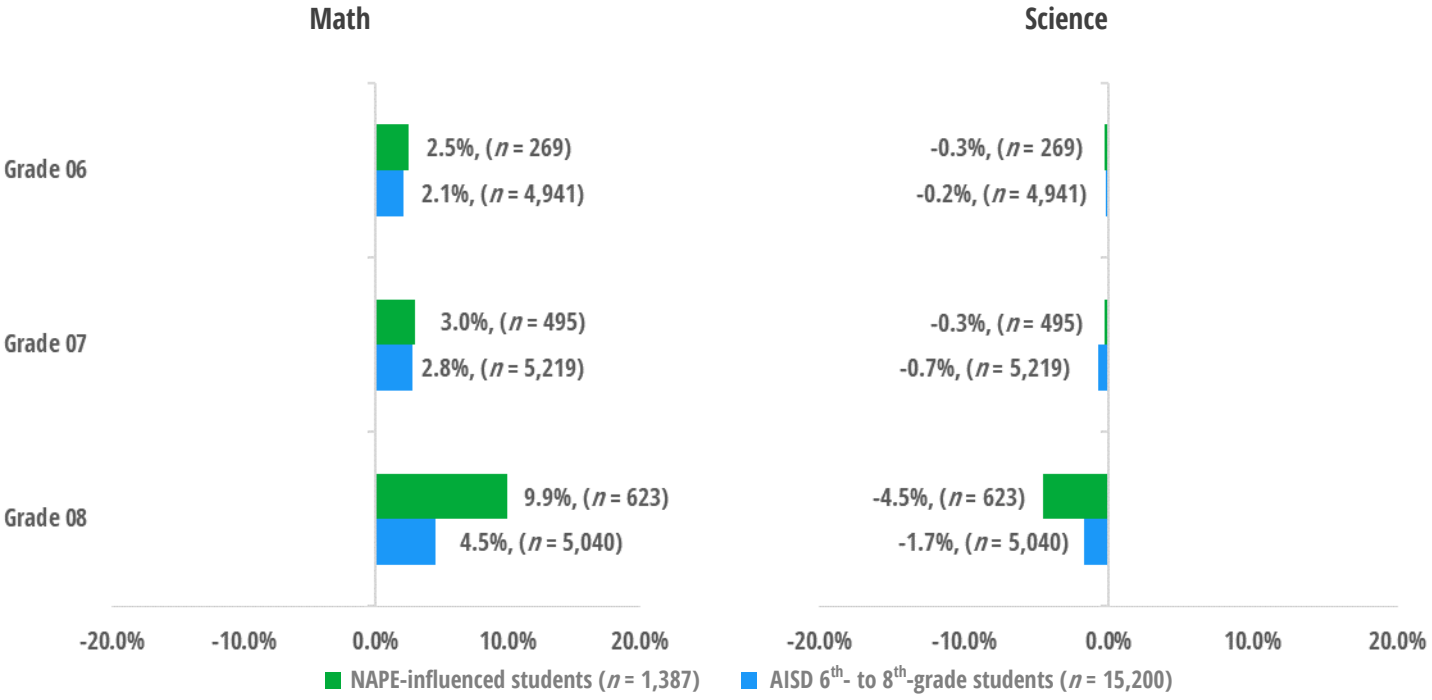
Advanced Core Course Enrollment, by Special Education Status



Source. AISD student records
Note. Core courses are classes all students are required to complete. NAPE-influenced students included students who were enrolled in a course with a teacher who completed the NAPE professional development training in 2015–2016 and reenrolled in 2016–2017. AISD 6th- to 8th-grade students included students enrolled in AISD in 2015–2016 and reenrolled in 2016–2017, including students who were enrolled in a course with a teacher who completed the NAPE professional development training in 2014–2015 or 2015–2016.

Appendix C

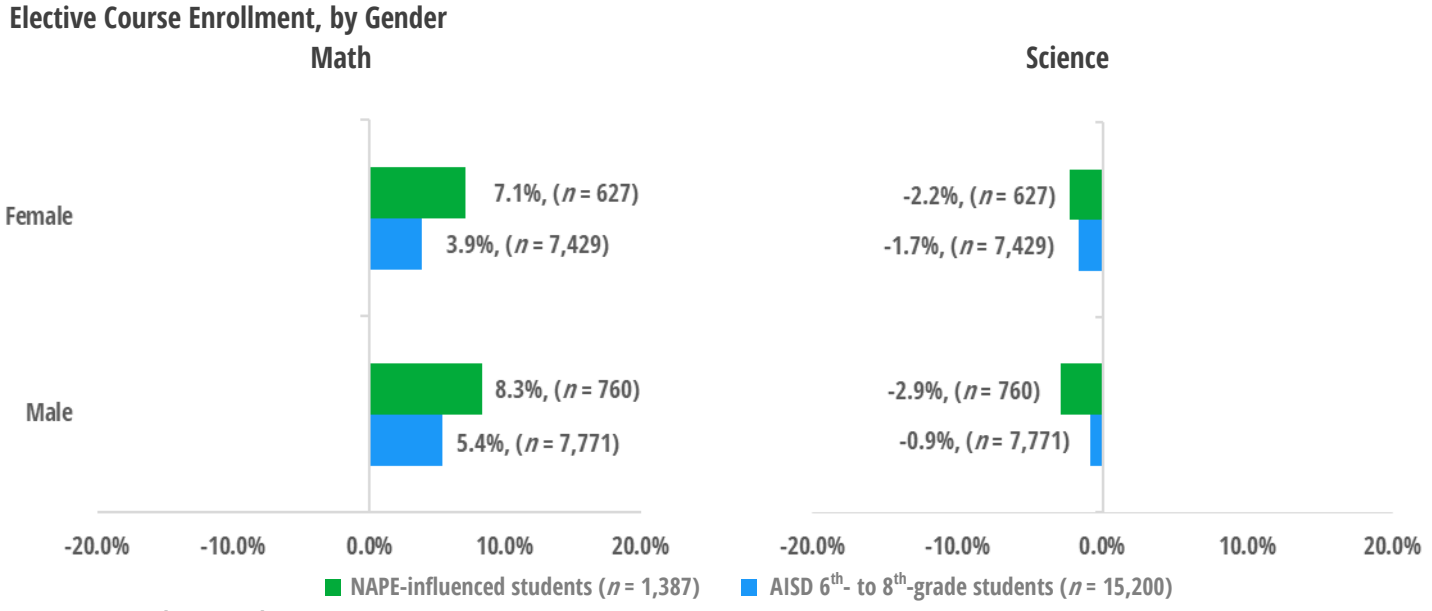
Elective Course Enrollment, by Grade



Source. AISD student records

Note. Elective courses and enrollment in those courses are determined by availability, based on students' schedules after considering core classes, students' interest in the course, and students' academic performance. NAPE-influenced students included students who were enrolled in a course with a teacher who completed the NAPE professional development training in 2015–2016 and reenrolled in 2016–2017. AISD 6th- to 8th-grade students included students enrolled in AISD in 2015–2016 and reenrolled in 2016–2017, including students who were enrolled in a course with a teacher who completed the NAPE professional development training in 2014–2015 or 2015–2016.

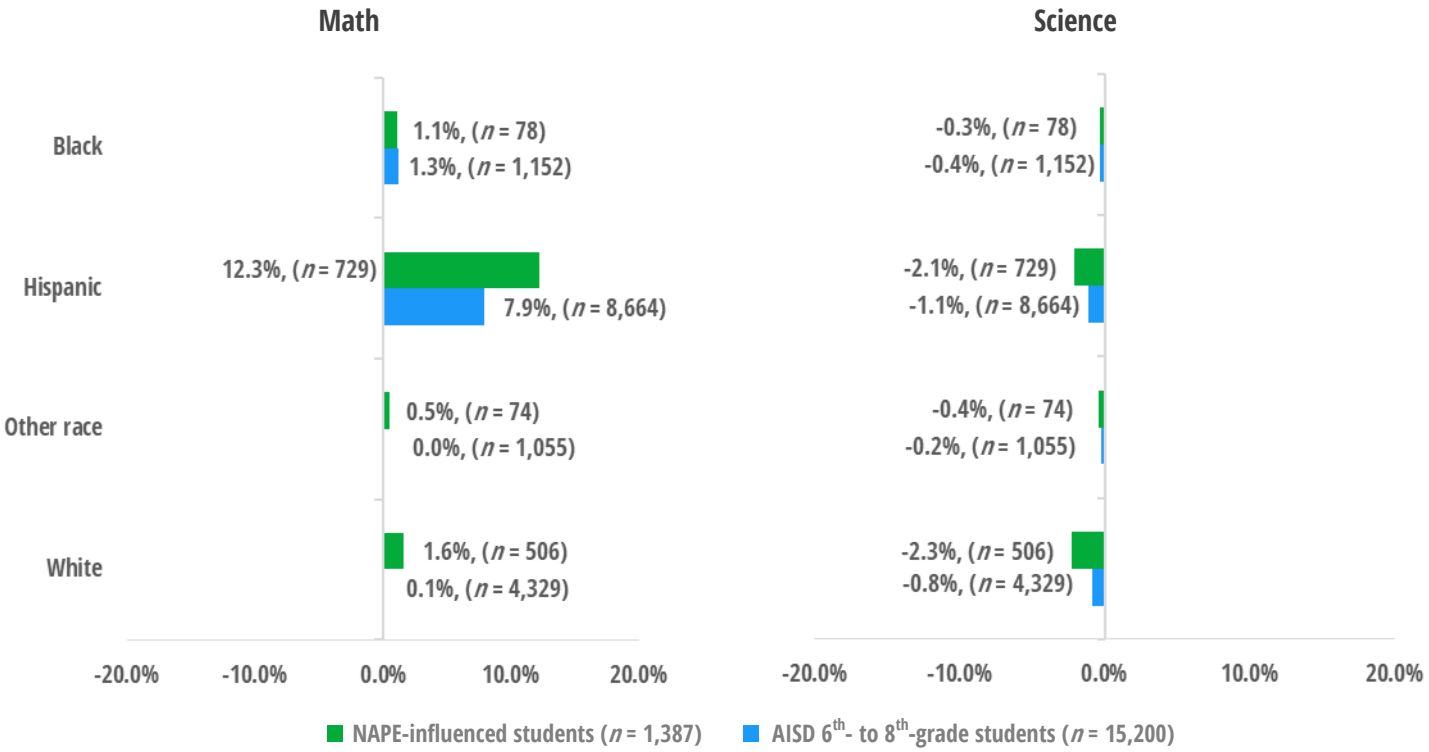
Elective Course Enrollment, by Gender



Source. AISD student records

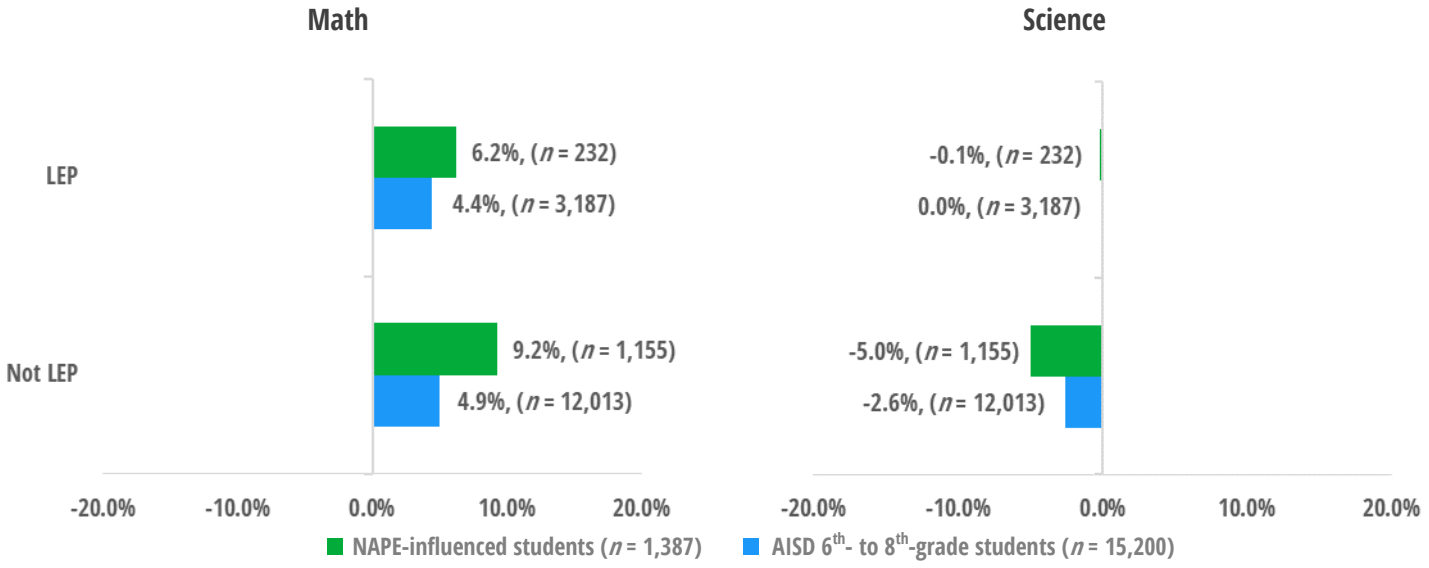
Note. Elective courses and enrollment in those courses are determined by availability, based on students' schedules after considering core classes, students' interest in the course, and students' academic performance. NAPE-influenced students included students who were enrolled in a course with a teacher who completed the NAPE professional development training in 2015–2016 and reenrolled in 2016–2017. AISD 6th- to 8th-grade students included students enrolled in AISD in 2015–2016 and reenrolled in 2016–2017, including students who were enrolled in a course with a teacher who completed the NAPE professional development training in 2014–2015 or 2015–2016.

Elective Course Enrollment, by Race



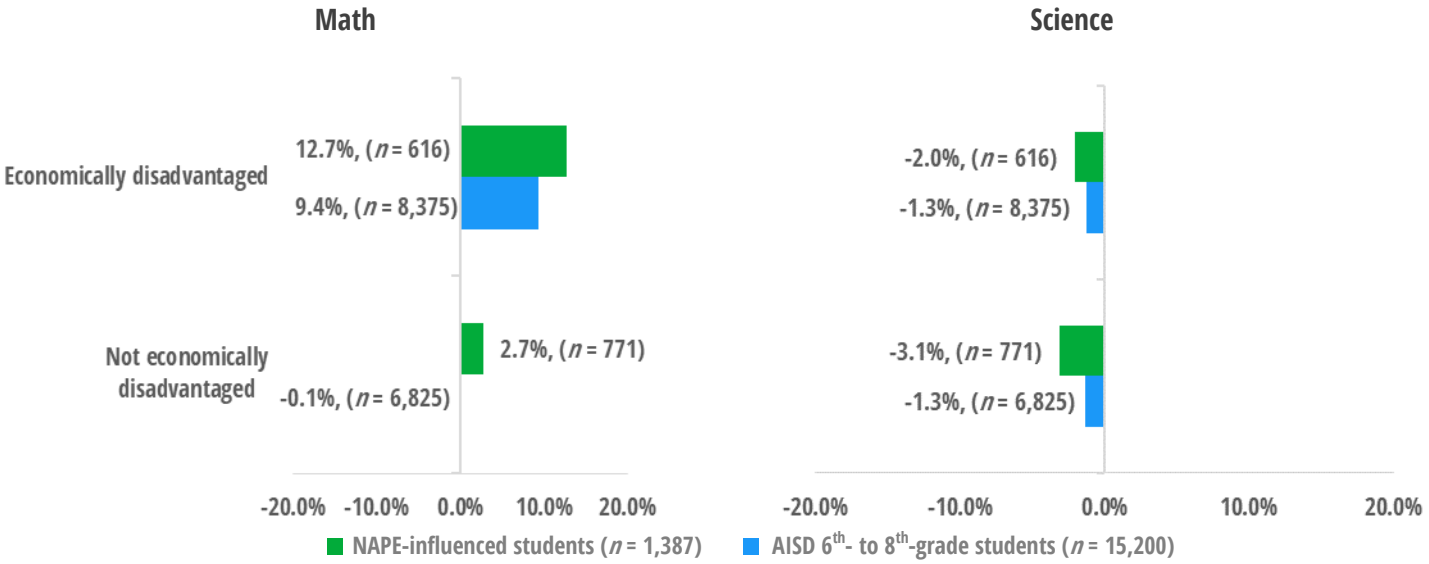
Source. AISD student records
Note. Elective courses and enrollment in those courses are determined by availability, based on students' schedules after considering core classes, students' interest in the course, and students' academic performance. NAPE-influenced students included students who were enrolled in a course with a teacher who completed the NAPE professional development training in 2015–2016 and reenrolled in 2016–2017. AISD 6th- to 8th-grade students included students enrolled in AISD in 2015–2016 and reenrolled in 2016–2017, including students who were enrolled in a course with a teacher who completed the NAPE professional development training in 2014–2015 or 2015–2016. Other race includes American Indian or Alaska Native, Native Hawaiian or other Pacific Islander, two or more races, and Asian students.

Elective Course Enrollment, by LEP Status



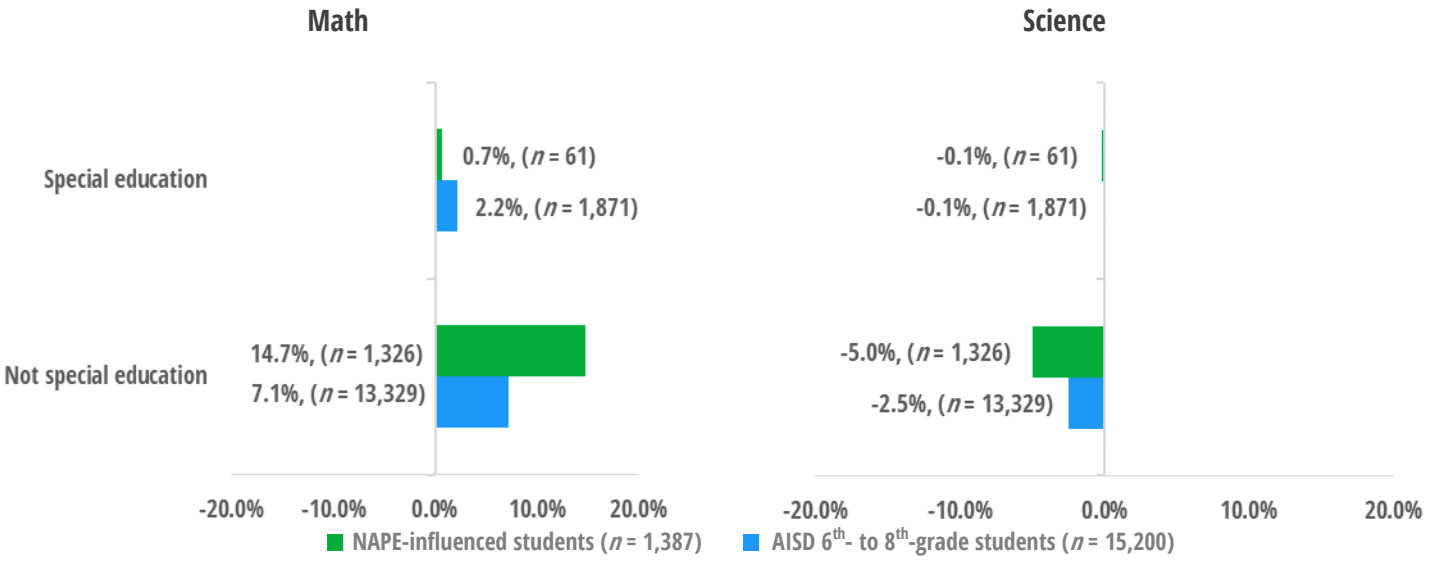
Source. AISD student records
Note. Elective courses and enrollment in those courses are determined by availability, based on students' schedules after considering core classes, students' interest in the course, and students' academic performance. NAPE-influenced students included students who were enrolled in a course with a teacher who completed the NAPE professional development training in 2015–2016 and reenrolled in 2016–2017. AISD 6th- to 8th-grade students included students enrolled in AISD in 2015–2016 and reenrolled in 2016–2017, including students who were enrolled in a course with a teacher who completed the NAPE professional development training in 2014–2015 or 2015–2016.

Elective Course Enrollment, by Economically Disadvantaged Status



Source. AISD student records
Note. Elective courses and enrollment in those courses are determined by availability, based on students' schedules after considering core classes, students' interest in the course, and students' academic performance. NAPE-influenced students included students who were enrolled in a course with a teacher who completed the NAPE professional development training in 2015–2016 and reenrolled in 2016–2017. AISD 6th- to 8th-grade students included students enrolled in AISD in 2015–2016 and reenrolled in 2016–2017, including students who were enrolled in a course with a teacher who completed the NAPE professional development training in 2014–2015 or 2015–2016.

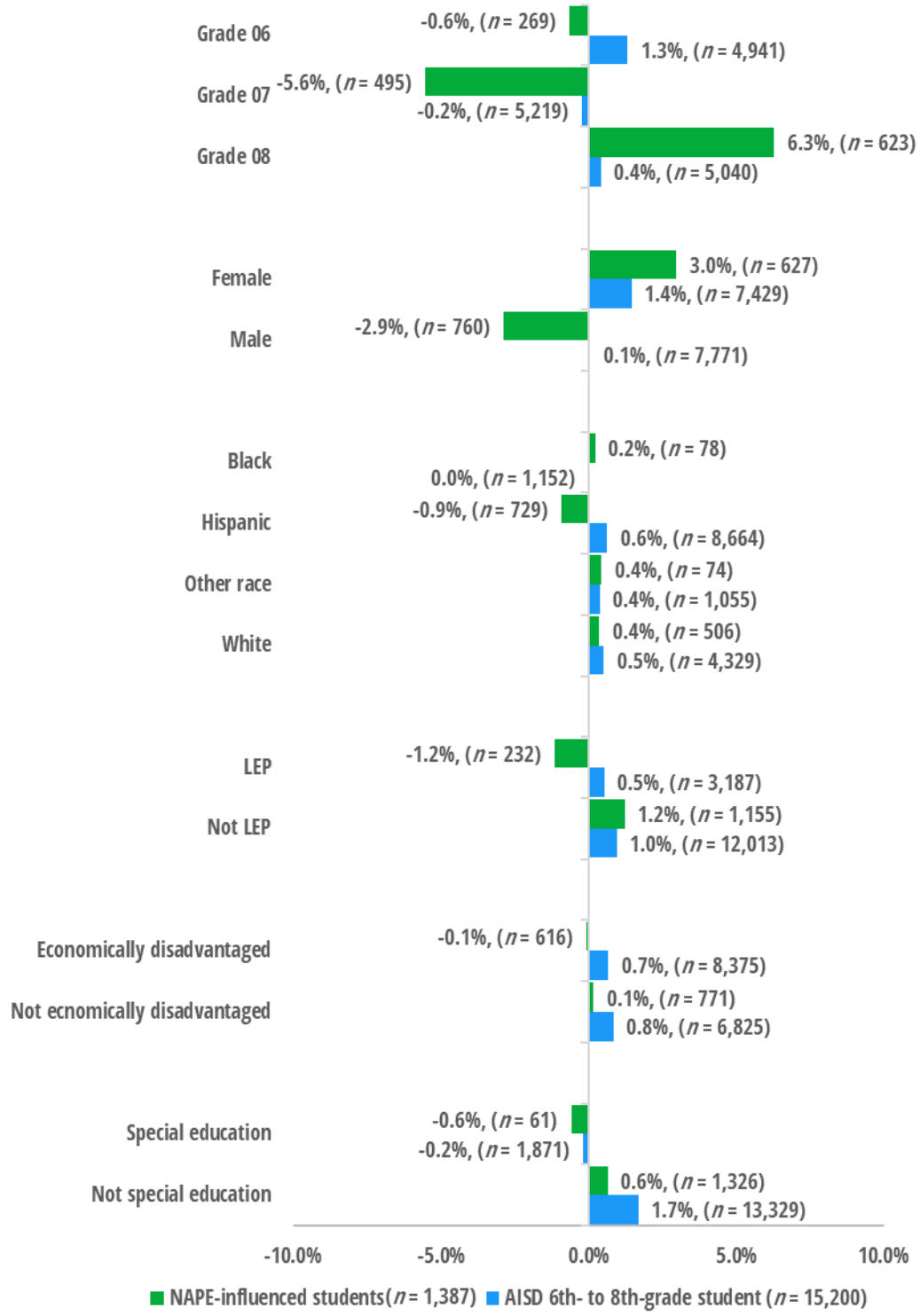
Elective Course Enrollment, by Special Education Status



Source. AISD student records
Note. Elective courses and enrollment in those courses are determined by availability, based on students' schedules after considering core classes, students' interest in the course, and students' academic performance. NAPE-influenced students included students who were enrolled in a course with a teacher who completed the NAPE professional development training in 2015–2016 and reenrolled in 2016–2017. AISD 6th- to 8th-grade students included students enrolled in AISD in 2015–2016 and reenrolled in 2016–2017, including students who were enrolled in a course with a teacher who completed the NAPE professional development training in 2014–2015 or 2015–2016.

Appendix D

STEM-Related CTE Course Enrollment



Source. AISD student records

Note. CTE courses and enrollment in those courses are determined by availability, based on students' schedules after considering core classes, students' interest in the course, and students' academic performance. NAPE-influenced students included students who were enrolled in a course with a teacher who completed the NAPE professional development training in 2015–2016 and reenrolled in 2016–2017. AISD 6th- to 8th-grade students included students enrolled in AISD in 2015–2016 and reenrolled in 2016–2017, including students who were enrolled in a course with a teacher who completed the NAPE professional development training in 2014–2015 or 2015–2016. Other race includes American Indian or Alaska Native, Native Hawaiian or other Pacific Islander, two or more races, and Asian students.

Appendix E

Endorsement Student Sample

	NAPE-influenced students	AISD students
	n =	*n* =
Female	277	2,689
Male	344	2,842
Black	33	445
Hispanic	333	3,179
Other race	40	390
White	215	1,517
LEP	95	1,014
Not LEP	526	4,517
Economically disadvantaged	275	3,078
Not economically disadvantaged	346	2,453
Special education	33	679
Not special education	588	4,852
Total	621	5,531

Source. AISD student records
Note. NAPE-influenced students included students enrolled in 8th grade in 2015–2016 and reenrolled in 9th grade in 2016–2017. AISD students included students enrolled in 8th grade in 2015–2016 and reenrolled in 9th grade in 2016–2017, including students who were enrolled in a course with a teacher who completed the NAPE professional development training in 2014–2015 or 2015–2016.

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