

# **A Study of the Correlation between STAAR Performance and Course Performance on Algebra I**

## **Overview**

Texas Education Code Section 39.332(b)(6) mandates an evaluation of the correlation between student classroom assessment grades and student performance on state-mandated assessments. To comply with this statute, the Texas Education Agency (TEA) has conducted periodic studies to determine the association between students' classroom performance and their scores on statewide criterion-referenced assessments.

The current report presented the most recent study, which examined the relationship between passing (i.e., meeting the *Approaches Grade level* Performance standard on) the spring 2023 State of Texas Assessment of Academic Readiness (STAAR) Algebra I assessment and passing (i.e., receiving credit for) the Algebra I course. The passing rates for the spring 2023 STAAR Algebra I assessment were compared with the passing rates for the Algebra I course based on the course completion information submitted to TEA by districts for the 2022–2023 school year. All students in the state who had both STAAR Algebra I data and Algebra I course data available were considered for comparison. As done in previous studies, if students who enrolled in the same course multiple times through 2022–2023 school year had different credit results (i.e., pass or fail), the observation including a passing result was used for comparison. Otherwise, the result from the most recent course enrollment was used for comparison.

## **Results**

### **Overall Student Performance**

Table 1 presents the overall passing rates for students who were available for the comparison study. The table has three sections. The first section (column 1) reports the total number of students included in the current study. The second section of the table (columns 2 and 3, highlighted in gray) presents the passing rates for the STAAR assessment and passing rates for the course, respectively. The third section (columns 4 through 7) presents the rates for passing both the STAAR assessment and the course, for passing the STAAR assessment only, for passing the course only, and the percentage of students who passed neither the STAAR

assessment nor the course.

Overall, the study included 425,098 students where 83 percent of students passed the STAAR Algebra I assessment and 91 percent of them passed the Algebra I course. Seventy-nine percent of students passed both STAAR Algebra I assessment and the Algebra I course. The overall percentage of students who passed the course (91 percent) was eight percent higher than those who passed the STAAR Algebra I (83 percent). There was a small percentage of students that passed only the STAAR assessment (four percent). The proportion of students passing only the Algebra I course was 12 percent. Five percent of students passed neither the STAAR assessment nor the course.

**Table 1** Overall Student Performance for STAAR EOC Algebra I and Algebra I Course

Student Course Enrollment	STAAR Passing Rate	Course Passing Rate	Passing Both	Passing STAAR Only	Passing Course Only	Not Passing Either
425,098	83%	91%	79%	4%	12%	5%

Note: This table is based on students who have both STAAR and course data for Algebra I available.

The remainder of this report is dedicated to presenting similar results disaggregated by student groups based on ethnicity, sex, and economic status. Some groups of students constitute a large portion of the population and others a small portion. To avoid generating imprecise results due to small sample sizes for some student groups, the selected student groups that were analyzed in this section only included those that correspond to five percent or more of the total number of students enrolled. Table 2 shows the population size and corresponding percentage of the included subgroups.

**Table 2** Students Population and Percentage for Subgroups

	Subgroup	Number of Students	Percentage
Ethnicity	Black/African American	54,841	13%
	Hispanic/Latino	227,390	53%
	White	106,207	25%
Sex	Female	205,036	48%
	Male	218,822	51%
Economic Status	Economically Disadvantaged	252,343	59%
	Non-Economically Disadvantaged	167,637	39%

Note: This table is based on students who have both STAAR and course data for Algebra I available.

## Student Performance by Ethnicity

Across all ethnic groups, the passing rates for the Algebra I course were higher than the passing rates of the STAAR Algebra I assessment. The percentages passing the STAAR assessment, the course, and both the assessment and course were higher for White students than for Black/African American students and Hispanic/Latino students. The comparison results across three ethnic groups are shown in Table 3. The passing rates for the Algebra I course ranged from 89 percent to 95 percent, and the passing rates for STAAR Algebra I assessment ranged from 75 percent to 90 percent. The specific results for each ethnicity group are presented below.

**Black/African American Students.** Results for Black/African American students are presented in the first row in Table 3. Among 54,841 Black/African American students, the overall percentage of students passing the Algebra I course (89 percent) was higher than those who passed the STAAR Algebra I assessment (75 percent). Seventy-one percent of Black/African American students passed both the assessment and the Algebra I course. Five percent passed only the STAAR Algebra I, 18 percent passed only the Algebra I course, and seven percent passed neither.

**Table 3** Student Performance by Ethnicity for STAAR Algebra I and Algebra I Course

Ethnicity	Student Course Enrollment	STAAR Passing Rate	Course Passing Rate	Passing Both	Passing STAAR Only	Passing Course Only	Not Passing Either
Black/African American	54,841	75%	89%	71%	5%	18%	7%
Hispanic/Latino	227,390	80%	89%	75%	5%	14%	6%
White	106,207	90%	95%	87%	2%	8%	2%

Note: This table is based on students who have both STAAR and course data for Algebra I available.

**Hispanic/Latino Students.** The total sample size for Hispanic/Latino students was 227,390. For all Hispanic/Latino students, 80 percent of them passed the STAAR assessment while 89 percent passed the Algebra I course. Seventy-five percent of Hispanic/Latino students passed both the STAAR Algebra I assessment and the Algebra I course. Five percent of Hispanic/Latino students passed the STAAR Algebra I assessment only while 14 percent passed the Algebra I course only. Six percent of students passed neither.

**White Students.** Results for White students are presented in the third row in Table 3. For 106,207 White students, 95 percent of them received the course credit, which was five percent higher than those who passed the STAAR assessment (90 percent). Eighty-seven percent of White students passed both STAAR Algebra I assessment and the Algebra I course. Two percent of them passed STAAR Algebra I assessment only, eight percent passed the Algebra I course only, and two percent passed neither.

### Student Performance by Sex

In the current study, 205,036 female students and 218,822 male students enrolled in the Algebra I course. Female students had higher passing rates for the STAAR Algebra I assessment than male students. Furthermore, the Algebra I course passing rate was also higher for females than males. Specific details for each sex group are presented in Table 4.

**Female Students.** Results for female students are presented in the first row in Table 4. Eighty-six percent of female students who enrolled in the Algebra I passed the STAAR Algebra I assessment while 92 percent of female students passed the Algebra I course. Eighty-two percent of female students passed both the STAAR Algebra I assessment and the Algebra I course. Four percent of female students passed only the STAAR Algebra I assessment while 11 percent passed the course only. Four percent passed neither.

**Table 4** Student Performance by Sex for STAAR EOC Algebra I and Algebra I Course

Sex	Student Course Enrollment	STAAR Passing Rate	Course Passing Rate	Passing Both	Passing STAAR Only	Passing Course Only	Not Passing Either
Female	205,036	86%	92%	82%	4%	11%	4%
Male	218,822	80%	90%	76%	4%	14%	6%

Note: This table is based on students who have both STAAR and course data for Algebra I available.

**Male Students.** Results for male students are presented in the second row in Table 4. Among all male students, 80 percent of them passed the STAAR Algebra I assessment whereas 90 percent passed the Algebra I course. Seventy-six percent of male students passed both the Algebra I assessment and the course. Four percent of male students only passed STAAR Algebra I assessment, 14 percent only passed the Algebra I course, and six percent passed neither.

## Student Performance by Economic Status

Overall, the rates for non-economically disadvantaged students were higher than for economically disadvantaged students on passing the STAAR Algebra I assessment, passing the Algebra I course, and passing both. The passing rates results for economically disadvantaged students and non-economically disadvantaged students are presented in Table 5.

**Economically Disadvantaged Students.** Among 252,343 economically disadvantaged students who enrolled in the Algebra I course, 78 percent and 88 percent of them passed the STAAR Algebra I assessment and the Algebra I course, respectively. The rate of passing both was 73 percent. Five percent of economically disadvantaged students passed the STAAR Algebra I assessment only, 15 percent passed only the Algebra I course, and seven percent passed neither.

**Table 5** Student Performance by Economic Status for STAAR EOC Algebra I and Algebra I Course

Economic Status	Student Course Enrollment	STAAR Passing Rate	Course Passing Rate	Passing Both	Passing STAAR Only	Passing Course Only	Not Passing Either
Economically Disadvantaged	252,343	78%	88%	73%	5%	15%	7%
Non-Economically Disadvantaged	167,637	91%	95%	88%	2%	7%	2%

Note: This table is based on students who have both STAAR and course data for Algebra I available.

**Non-Economically Disadvantaged Students.** There were 167,637 non-economically disadvantaged students that took the Algebra I course. Ninety-one percent of them passed the STAAR Algebra I assessment while 95 percent of the students received credit for the Algebra I course. For non-economically disadvantaged group, 88 percent of them passed both STAAR Algebra I assessment and the course. Two percent of the students passed only the STAAR Algebra I assessment, seven percent passed only the Algebra I course, and two percent passed neither the assessment nor the course.

## Summary

This current study compared the passing rates for the STAAR Algebra I assessment and the Algebra I course. The overall results of the study showed that most students in the current study (79 percent) passed both the STAAR Algebra I assessment and the Algebra I course. The percentage of students passing the Algebra I course (91 percent) was higher than the percentage passing the STAAR Algebra I assessment (83 percent). This finding was consistent across all subgroups in the current study.

Across three ethnic groups, passing rates regarding both the STAAR Algebra I assessment and the course ranged from 71 to 87 percent. In addition, the passing rate for the Algebra I course (89 to 95 percent) was higher than the passing rate for the STAAR Algebra I assessment (75 to 90 percent) across Black/African American, Hispanic/Latino and White groups. Regarding the passing rates between female and male students, the STAAR Algebra I assessment had lower passing rates (80 and 86 percent) than the course (90 and 92 percent). Female group had a higher rate in passing both the assessment and the course (82 percent) than that of the male group (76 percent). In terms of economic status, the results of the study showed that the passing rates on the STAAR Algebra I assessment, the course, and on both STAAR Algebra I and the course were higher for the non-economically disadvantaged students than for the economically disadvantaged ones. Additionally, both groups had higher passing rates on the Algebra I course. The Algebra I course passing rates were 88 percent and 95 percent, respectively, for the economically disadvantaged group and the non-economically disadvantaged group whereas the passing rates for the STAAR Algebra I assessment were 78 percent and 91 percent, respectively.