MEMORANDUM March 3, 2017

TO: Jharrett M Bryantt
Assistant Superintendent, College and Career Readiness

FROM: Carla Stevens
Assistant Superintendent, Research and Accountability

SUBJECT: **2015–2016 AVID PROGRAM**

The Advancement Via Individual Determination (AVID) program was developed to increase the number of secondary students who participate in rigorous academic courses, to accelerate student learning, and to improve student performance. The AVID program in the Houston Independent School District (HISD) targets students who (1) are in the academic middle and earn grades of B, C, and D; (2) desire to go to college; (3) are willing to work hard; (4) are capable of completing rigorous curricula; and (5) are not reaching their full academic potential. The program's mission is to close achievement gaps through the use of educational strategies that prepare all students for success.

Key findings are as follows:

- Overall, 2,061 HISD students from 23 campuses were enrolled in the 2015–2016 AVID program, a 57.3 percent increase from 1,310 in 2014–2015. Student enrollment increased 76.7 percent at the middle school level and decreased 21.5 percent at the high school level.
- Nearly one-half of AVID students (46.0 percent) and nearly one-third of non-AVID students (30.6 percent) enrolled in pre-Advanced Placement courses. In addition, 22.4 percent of AVID students versus 3.4 percent of non-AVID students enrolled in Advanced Placement courses and 67.1 percent of AVID students versus 1.5 percent of non-AVID students enrolled in dual credit courses.
- From 2014–2015 to 2015–2016, the percentage of students in AVID who took AP exams increased slightly from 20.9 to 21.1, while the percentage who scored three or higher decreased 5.5 percentage points. However, a higher percentage of AVID (12.2 percent) than non-AVID (8.2 percent) students scored three or higher on AP exams in 2015–2016.
- Sixth-grade AVID students scored statistically significantly higher (17.3 points) on the STAAR reading exam than matched grade six, non-AVID students. A positive, statistically significant effect of the AVID program was associated with an average gain of 11.4 points on this exam.
- AVID students achieved their highest pre-AP course grades (grades 6–12) and STAAR reading scores (grades 6–8) on Certified or Highly-Certified campuses and performed statistically significantly better than AVID students on campuses with lower AVID certification levels.

Further distribution of this report is at your discretion. Should you have any further questions, please contact me at 713-556-6700.

Attachment

cc: Grenita Lathan
Rick Cruz

HOUSTON INDEPENDENT SCHOOL DISTRICT

RESEARCH

Educational Program Report

ADVANCED VIA INDIVIDUAL DETERMINATION (AVID) 2015–2016

HISD | Research and Accountability

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www.HoustonISD.org

ADVANCEMENT VIA INDIVIDUAL DETERMINATION (AVID)

FINDINGS RELATED TO STUDENT PERFORMANCE, 2015–2016

EXECUTIVE SUMMARY

Program Description

The Advancement Via Individual Determination (AVID) program was developed in 1980 to meet students' academic and emotional needs. AVID is used in more than 5,600 schools to help students of color and students with socioeconomic disadvantages succeed beyond obstacles that have historically kept their ancestors out of college (AVID, 2016a). The program's mission is to close achievement gaps and prepare all students for success in college and in our global society (AVID, 2015). AVID classrooms feature student-centered decision-making and learning contracts, academic reading and writing, teachers' roles as students' advocate/advisor/counselor, academic support from trained teachers and tutors, emphasis on objective data, and a commitment to the Socratic process of inquiry. AVID focuses on students who possess the capacity to complete college-preparatory coursework with the proper academic and emotional support. Equity in education is AVID's fundamental principle (Magee, 2015).

The primary objectives of the AVID program are to increase the number of secondary students who participate in rigorous academic courses (such as Advanced Placement (AP) courses), to accelerate student learning, and to improve student performance. These objectives align with the district's Primary Goal 1, "Increase Student Achievement." The AVID program in the Houston Independent School District (HISD) targets middle and high school students who (1) are in the "academic middle" and earn grades of B, C, and D; (2) desire to go to college; (3) are willing to work hard; (4) are capable of completing rigorous curricula; and (5) are not reaching their full academic potential. Typically, these students (1) are enrolled in regular classes (non-gifted and talented, non-special education); (2) are economically disadvantaged, (3) are from non-White families; (4) are underrepresented in four-year colleges; and/or (5) possess the potential to become first-generation college students (Houston Independent School District, 2011).

To be selected for the AVID program, students must have a GPA between 2.0 and 3.5 and never have taken an AP course. HISD teachers who elect to participate in the AVID program are expected to receive training on the AVID curriculum to ensure fidelity of implementation. Students who participate in the AVID program are expected to take AVID elective courses and receive tutoring from their peers or from volunteer AVID tutors, one to two times weekly. Volunteer AVID tutors are expected to receive training and provide content-specific support and guidance with reading, study skills, note-taking, organizational skills, writing, inquiry, collaboration, and critical thinking including mathematical reasoning to enhance student learning. In 2015–2016, students on 23 secondary campuses in HISD participated in the AVID program.

Highlights

- Student participation in AVID was its highest in 2015–2016, showing a 25.6 percent increase over the last four years. Program participation increased 57.3 percent from the 2014–2015 (n=1,310) to the 2015–2016 school year (n=2,061), with an increase of 76.7 percent at the middle school level and 21.5 percent at the high school level.

- The 2015–2016 Certification Self-Study (CSS) designations for 22 campuses assessed out of 23 AVID campuses were five Non-Certified Sites, one Affiliate AVID Site, 11 New AVID Sites, four AVID Certified Sites, and one AVID Highly Certified Site (from lowest to highest certification level).

- Pre-Advanced Placement (pre-AP), Advanced Placement (AP), and dual credit course enrollment rates for students in the AVID program were higher than non-AVID students' enrollment rates at the high school level and in total.

- In grades 10–12, program impact results for matched AVID and non-AVID students showed AVID had a positive, statistically significant treatment effect on pre-AP course grades, associated with an average gain of 2.4 points due to AVID participation.

- The percentage of Advanced Placement exams on which AVID students scored three or higher (12.2 percent) was 4.0 percentage points higher than the percentage of non-AVID students who scored three or higher (8.2 percent) on Advanced Placement exams in 2015–2016. However, the proportion of students in AVID scoring three or higher on AP exams in 2015–2016 decreased 5.5 percentage points from 17.7 percent in 2014–2015.

- The 17.3 point difference between the mean STAAR reading score of matched grade six AVID and non-AVID students was statistically significant in favor of AVID students. A positive, statistically significant treatment effect of the AVID program was associated with an average gain of 11.4 points on the exam.

- None of the student performance differences between matched AVID and non-AVID students and none of the program treatment effects on the STAAR EOC exam results assessed (English I, English II, U.S. History) were of statistical significance. Sufficient data were not available for Algebra I and Biology STAAR EOC exams.

- The performances of matched AVID and non-AVID students on college readiness exams showed statistically significant differences in favor of non-AVID students in mathematics at grades eight (PSAT 8/9) and eleven (PSAT NMSQT). Statistically significant, negative program impacts on students' performances in mathematics (grade eight: -7.2 points; grade 11: -53.1 points) and on total scores (grade eight: -11.2 points; grade 11: -77.9 points) were found on these measures.

- AVID students achieved their highest pre-AP course grades (grades 6–12) and STAAR reading scores (grades 6–8) on AVID campuses that were Certified or Highly-Certified, outperforming AVID students on campuses with lower certification levels on these measures. This result was statistically significant ($p.<0.5$) and small to medium impacts of the AVID program were found.

Recommendations

- Establish procedures to ensure that all students targeted by the district for program participation are appropriately identified and encouraged to participate in AVID.

- Ensure that AVID administrators and coordinators in HISD are well-educated through AVID's professional development program and provide support to trained AVID teachers and site teams.

- Ensure that campus-based, interdisciplinary AVID site teams are afforded the necessary support and oversight to guide full program implementation, correctly self-assess adherence to the 11 AVID essentials, and accurately report implementation fidelity on their campuses.

- Further improve AVID students' performance by identifying gaps in teaching and learning, and knowledge retention and transfer; especially among historically underserved student groups.

Introduction

The Advancement Via Individual Determination (AVID) system is implemented in the Houston Independent School District (HISD) as a secondary education program for select students. It provides students a platform of educational and social structures that allows students to be nurtured through the development of their academic skills and motivation to pursue educational and career goals.

Equity in education is AVID's fundamental premise (Magee, 2015). The AVID philosophy and framework focus on students, particularly low-income students, who possess the capacity to complete college-preparatory coursework with the proper academic and emotional support. The program's mission is to close achievement gaps through the use of educational strategies that prepare all students for success in a college or university and in our global society (AVID, 2015). AVID utilizes an array of strategies to support HISD students' successful completion of high school and entrance into college. The AVID program employs five basic instructional strategies to help students to develop their academic skills for success: writing to learn, inquiry to target students' needs, collaboration, organization, and reading to learn, known as WICOR. Using AVID's research-based curriculum, reading, writing, critical thinking, and academic behaviors are emphasized across subjects to help students clarify, organize, understand, and communicate ideas as well as manage their time and set goals (AVID, 2016b). To improve their writing, students may participate in Cornell note-taking, prewriting, journaling/learning logs, draft and final draft, editing, and reader response activities. Activities to help students become more effective and confident life-long learners and readers include survey/question/read/record/recite/review/reflect (SQ5R), What I Know/Want to Learn/Learned (KWL), reciprocal teaching, and Think-Aloud. Unlike traditional models for teaching and learning, collaborative processes are infused throughout the AVID program and include the teacher as student advocate/advisor/counselor, group projects, study groups, Jigsaw Activities, response/edit/revision groups, and Read-Around. Inquiry or questioning is AVID's foundational strategy and is used to help AVID students critique and synthesize information so they may advance to higher levels of thinking incrementally. This is achieved through skilled questioning and Socratic Seminars and critical thinking and open-mindedness activities (Contreras, et al., 2009). AVID students may apply the techniques they learn in the AVID program in all their courses. Students on 20 middle and three high school campuses in HISD participated in AVID during the 2015–2016 school year (**Table 1,** p. 29).

Program Components

The AVID system components are (AVID, 2013; pp. 3–5):

- Interdisciplinary site team (AVID professional learning community) creates an annual site plan, implements AVID, provides peer support to site team, models best practices, and trains other site teachers.
- District Director oversees and ensures program implementation fidelity.
- AVID-trained teachers deliver academic support and instruction (WICOR).
- AVID curricular materials and resources, and research-based strategies and best practices.
- AVID structure and processes that create a campus-wide attitude of college readiness, produce a sense of family among students, and engage parents and the community.
- AVID professional development in AVID methodologies for educators is exceptional and includes district and regional sessions.
- Ongoing site visits, online seminars, coaching, support and resources are provided for teachers.
- Comprehensive data collection and certification system are implemented to provide districts and schools with data to support student improvements.

Program Implementation

AVID program implementation fidelity is determined by a school's adherence to 11 characteristics of AVID secondary school implementation that are considered essential components for maximum impact on student success as identified by the AVID Center (AVID, 2016c; p. 1). They are:

1. AVID student selection must focus on students in the middle, with academic potential, who would benefit from AVID support to improve their academic record and begin college preparation.

2. AVID program participants, both students and staff, must participate voluntarily.

3. The school must be committed to full implementation of AVID, with students enrolled in the year-long AVID elective class(es) available within the regular school day.

4. AVID students must be enrolled in a rigorous course of study that will enable them to meet requirements for university enrollment.

5. Instructional strategies are taught in the AVID Elective class to develop students' organizational skills that promote academic self-management.

6. A strong, relevant writing and reading curriculum provides a basis for instruction in the AVID elective class.

7. Inquiry and collaboration are used as a basis for instruction in the AVID elective class and to promote critical thinking.

8. A sufficient number of tutors must be available in the AVID elective class(es) to facilitate student access to rigorous curriculum. Tutors should be students enrolled in colleges and universities who can mentor students and facilitate tutorials, and they must be trained to implement the methodologies used in AVID.

9. AVID program implementation and student progress must be monitored through the AVID Center Data System, and results must be analyzed to ensure success.

10. The school or district has identified resources for program costs, has agreed to implement all AVID Essentials and to participate in AVID Certification. It has committed to ongoing participation in AVID professional learning.

11. An active, interdisciplinary AVID site team collaborates on issues of student access to and success in rigorous college preparatory courses.

Program Certification

Through a process called Certification Self-Study (CSS), AVID certification categories for participating AVID middle and high schools are based upon the schools' AVID Site Teams' self-reported levels of implementation for each of the 11 AVID Essentials with the district's AVID Director's approval and the Team's submission of AVID's data collection forms. The CSS is used to guide schools toward effective program implementation, determine implementation fidelity, and recommend a level of AVID certification (AVID, 2016d; Johnston, Nickel, Popp, & Marcus, 2010). The AVID certification categories are:

1. Non-Certified Site
   A site that has never been certified and has one or more Essentials rated as “Not AVID” (Level 0) and is working to implement all 11 AVID Essentials.

2. Affiliate AVID Site
   A former AVID Certified Site or Affiliate site that has one or more Essentials rated as “Not AVID” (Level 0); Site Team is working to implement all 11 AVID Essentials.

3. New AVID Site
   A site implementing AVID for the first time at the start of this academic year.
   [Some sites had last enrolled students in AVID electives two or more years prior].

4. AVID Certified Site
   A site with all Essentials rated “Meets Certification Standards” (Level 1) or higher.

5. AVID Highly Certified Site
   A site that meets certification standards (all 11 Essentials at Level 1 or higher), has at least six Essentials rated "Routine Use" (Level 2) and/or "Institutionalization" (Level 3), has been certified for at least two consecutive years, and has implemented for a minimum of four years.

6. Demonstration Site
   A middle school site that has been certified for at least two consecutive years or a high school site that has been certified for at least three consecutive years with at least one graduating class of seniors; and all 11 Essentials rated "Routine Use" (Level 2) with no Essential rated “Not AVID” (Level 0); and the site is recommended as a model of high implementation fidelity which is verified through a validation site visit by a qualified AVID Center personnel.

Using data from the CSS, AVID researchers (Johnston, Nickel, Popp, & Marcus, 2010) found that schools implementing the AVID program at the highest levels of fidelity achieved significantly higher student achievement across all course enrollment and academic outcomes. Students attending AVID Certified schools had higher levels of participation in AP/IB courses and on AP/IB exams. They were also more likely than their counterparts to take SAT or ACT exams, complete college entrance requirements, and plan on attending college.

The research questions that guided this analysis were:

- What were the levels of participation in the AVID program from 2012–2013 through 2015–2016?
- How did the characteristics of 2015–2016 AVID participants compare to the characteristics of their non-AVID counterparts?
- What were the levels of AVID program implementation on HISD campuses with students enrolled in AVID elective courses? What were the effects of implementation fidelity on AVID student performance?
- Did AVID students enroll in more pre-AP, AP, and dual credit courses than non-AVID students?
- How did the levels of AP exam participation and performance of students in the AVID program compare between the 2014–2015 and 2015–2016 school years?
- Did AVID students complete more AP exams and score higher than their non-AVID counterparts?
- Did AVID students perform better than non-AVID students on state-mandated STAAR and STAAR EOC tests and college/career readiness exams?

- What accomplishments were achieved by graduating seniors who participated in the AVID program in 2015–2016, as reported by campus and district staff?

Methods

- In late May 2016, student-level Cognos Chancery Ad Hoc Student Information System (Cognos Chancery Ad Hoc) records were used to identify students who participated in at least one AVID elective course during the 2015–2016 school year. A total of 23 AVID schools (20 middle and three high) were identified with 2,061 students (1,502 middle and 559 high) who enrolled in AVID courses.

- 2015–2016 demographic data were available from Chancery SMS Database on July 7, 2016 (except at risk, special education, and gifted/talented data which were retrieved on May 20, 2016 from Cognos Chancery Ad Hoc Database) for all students on AVID campuses in grades 6–12. AVID campus of enrollment and grade level, PEIMS inclusion (i.e., student was enrolled in HISD on October 30, 2015), and AVID course participation data were retrieved from Cognos Chancery Ad Hoc databases on May 20, 2016. Course participation and completion data were retrieved from Cognos Chancery Ad Hoc Grades files on July 7, 2016.

- AVID participants and all other students on AVID campuses in the same grade levels were matched to HISD pre-Advanced Placement (pre-AP), Advanced Placement (AP), and dual credit grades and/or examination (exam) databases. The data were used to determine students' participation and grades in advanced courses (on a scale of 0–100), and performance on exams. AP test scores were retrieved from Chancery SMS Database Historical Grades File on July 7, 2016.

- Identified students were matched to their HISD 2015–2016 Public Education Information Management System (PEIMS) student information from Cognos Chancery Ad Hoc and to their first administration 2015–2016 State of Texas Assessments of Academic Readiness (STAAR) scale scores, July 11, 2016 Release (retrieved on July 27, 2016), spring administration only STAAR End-of-Course (EOC) scale scores (retrieved on July 27, 2016) from Cognos Chancery STAAR All Inclusive databases (filtered for STAAR, STAAR L, Accommodated, and Alternate 2 test versions), PSAT 8/9 (grades 8 and 9), PSAT/NMSQT (grades 10 and 11), and SAT (grades 11 and 12) scale scores (retrieved on September 7, 2016) from HISD Fall 2015 PSAT89, HISD Fall 2015 PSAT, and HISD 2015–2016 SAT databases.

- One score for each STAAR EOC first time tester or retester was included in analysis. First time STAAR EOC testers' results are based on the Level II Satisfactory 2016 progression standard which increased from the previous Level II Phase-in 1 Satisfactory standard and will continue to increase each year until 2021–2022. This means first time STAAR EOC test takers had to answer more items correctly to meet Level II Satisfactory standard than the items required for retesters of EOC exams in the previous year. Retesters had previously taken an EOC exam. Their scores were based on the standard in place at the student's first time of testing. To accommodate this variation across students, the STAAR EOC Level II Satisfactory Student Standard field in Cognos Chancery was used. Any comparisons of results to prior performance should be made with caution.

- PSAT 8/9 tests (for grades eight and nine) and PSAT/NMSQT tests (designed for grade 11 and taken at grades 10 and 11 in HISD) were taken in October 2015 to measure skills and knowledge for college and/or career readiness, with an Evidence-Based Reading and Writing (EBRW) score (reading, language, and writing combined) and a mathematics score. PSAT 8/9 EBRW and mathematics scale scores range from 120 to 720 points each, with a total score range of 240 to 1440. PSAT NMSQT scale scores range from 160 to 760 points, with a total score range of 320 to 1520.

- SAT scores are used for college admissions. Scale scores range from 200 to 800 points for each subject (critical reading, math, and writing), a maximum total score of 2400. Tests were taken from April 2015 to January 2016. (The new SAT subjects parallel the new PSAT subjects starting in March 2016.)

- For performance comparisons, student-level Cognos Chancery Ad Hoc records were used to identify 8,122 middle and 1,942 high school students who were not enrolled in an AVID elective course in 2015–2016 on the same campuses and at the same grade levels as the AVID participants. All students on the Houston Academy for International Studies high school campus participated in AVID. Therefore, no students were available for the matched, non-AVID comparison group and the campus was excluded from analyses that used matched comparisons for student performance.

- The 2015–2016 students who participated in at least one AVID elective course during the 2015–2016 school year constituted the treatment group (AVID students). Remaining students at the same campuses and grade levels comprised the non-treatment (non-AVID) comparison group.

- Propensity score matching (PSM) is used to make causal inferences based on observational data (Cohen, 1988). To assess the impact of the AVID program on students' course grades and test performances, STATA 14 Treatment-effects using PSM assigns the potential outcome (which is considered as missing data) for each AVID student and non-AVID student using an average of the outcomes of similar students in the other group (StataCorp, 2013) to estimate program effects. It takes into account the estimated nature of propensity scores which are used to depict similarity between students based on estimated treatment probabilities. The average treatment effect is derived from the average of the difference between the observed and the potential outcome for each student. STATA 14 Treatment-effects calculates the estimated, average treatment effect among AVID students (ATET).

- For PSM analyses of students' course grades, STAAR (reading and mathematics) and STAAR EOC (English I, English II, Algebra I, Biology, and U.S. History) scores, and college readiness scores, AVID (treatment group) and non-AVID (comparison group) students were matched on their economic, at-risk, special education, gifted/talented, and limited English proficiency statuses, and on their prior year's cumulative GPA (2015–2016 grades 10–12) or spring 2015 STAAR performance (2015–2016 grades 6–9). Students were also matched on the number of years in which their school participated in the AVID program for STAAR and STAAR EOC performance analyses. PSM utilizes a regression model for the treatment and requires no bias-correction between the treatment and comparison groups (StataCorp, 2013, p. 44). PSM analyses generated t-statistics which were used to calculate probabilities (*p*-values) to determine the statistical significance of results.

- Included in PSM analyses of treatment-effects were students who were enrolled in HISD on October 30, 2015 (i.e., PEIMS inclusion), had an average daily attendance rate that was greater than zero, and who had spring 2015 STAAR scores (2015–2016 grades 6–9) or 2014–2015 cumulative GPA (2015–2016 grades 10–12) the previous year.

- Differences in the educational programming received by AVID students were expected to largely reflect the fidelity of AVID program implementation on AVID campuses. IBM SPSS Statistics Kruskal-Wallis *H*-tests for non-random, normally distributed data were employed to ascertain whether or not the performances of AVID students differed depending upon the level of program implementation fidelity on their campuses (using Certification Self-Study/CSS categories of 1-Non-Certified to 5-Highly Certified). Students were grouped by their schools' level of AVID certification, based on the CSS. AVID students who were matched with non-AVID students in previous analyses were included.

- Kruskal-Wallis *H*-tests compare three or more groups' median scores, convert them to mean ranks, and evaluate the statistical significance of the difference between the groups. An adjusted significance level was used to assure no more than a five percent type-1 error rate for any of the hypotheses being tested. Post hoc tests were conducted to determine between which groups statistically significant differences were found and to generate *z*-scores to calculate effect sizes (*r*) (i.e., *z*-score/square root of total sample size) (Rosenthal & DiMatteo, 2001; Elis, 2010; Field, 2013), using the following intervals for *r* and Cohen's *d*: 0.2 (small effect), 0.5 (medium or intermediate effect), and 0.8 and higher (large effect) (Cohen, 1988).

- Kruskal-Wallis *H*-tests were conducted to compare AVID students' grades 6–12 mean Pre-AP, AP, and dual credit course grades; and grades 6–8 STAAR reading and STAAR EOC English I and English II scores grouped by their schools' AVID certification levels. Sufficient numbers of the students with 2015–2016 scores from schools at different levels of AVID program implementation fidelity were not available to determine if AVID students' dual credit course and STAAR EOC performances were impacted by their schools' AVID CSS certification category.

- Where indicated, preliminary analyses were conducted to assure there were no violations of normality, linearity, multicollinearity, and homoscedasticity.

Data Limitations

- The comparison group of non-AVID students was a convenience sample of non-AVID students in the same schools and grades, and in many cases, in the same courses with AVID students and AVID teachers. AVID teachers who taught core content areas taught both AVID and non-AVID students, using the same instructional strategies. Consequently, the extent to which AVID students may have experienced instructional strategies and supports that were different from those experienced by non-AVID students is undetermined. Therefore, although the comparison group used for the analyses was a statistically matched sample as necessary for rigorous analyses of program effects, while correlations can be identified, conclusions of causation are made with caution.

- For some measures, student performance data showing comparisons of AVID and non-AVID students were not presented at some grade levels due to group sizes of fewer than five students.

- Data limitations regarding sample size, collinearity, and treatment overlap assumption violations, precluded analyses of program effects on average dual credit course grades and on STAAR grade seven writing and grade eight science and social studies exams.

- Campus-level AVID implementation data were not available for one middle school. Consequently, the school and its students were not included in program implementation analyses.

- All AVID students with dual credit course scores attended schools with the same CSS category (AVID Certified Site), which precluded analysis of this measure.

Results

Descriptive Outcomes for Unmatched AVID and Non-AVID Students

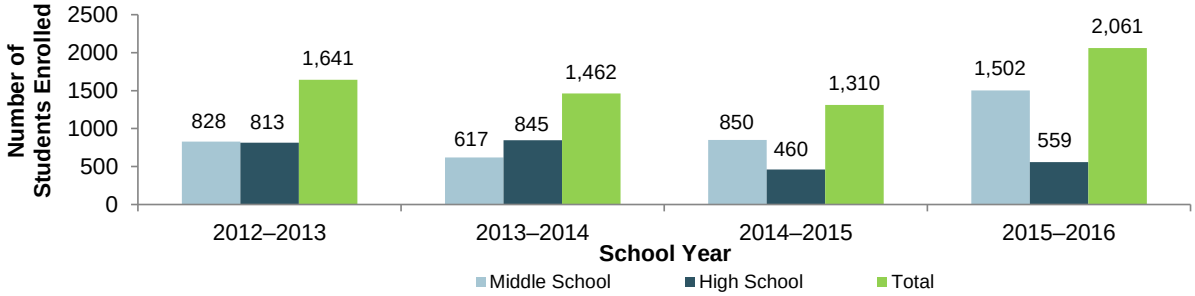
What were the levels of participation in the AVID program from 2012–2013 through 2015–2016?

- In 2015–2016, 1,502 middle and 559 high school students participated in AVID (**Figure 1**).

- Figure 1 shows AVID program enrollment increased 25.6 percent over the last four years from 2012–2013 (n=1,641) to 2015–2016 (n=2,061), including an 81.4 percent increase among middle school students and a 31.2 percent decrease among high school students. Driven largely by middle school enrollment, the highest enrollment in the four year time period was in 2015–2016 (**Table 1**, p. 29).

- From 2014–2015 (n=1,310) to 2015–2016 (n=2,061), there was 57.3 percent growth in AVID program participation, which included a 76.7 percent increase among middle school students and a 21.5 percent increase among high school students.

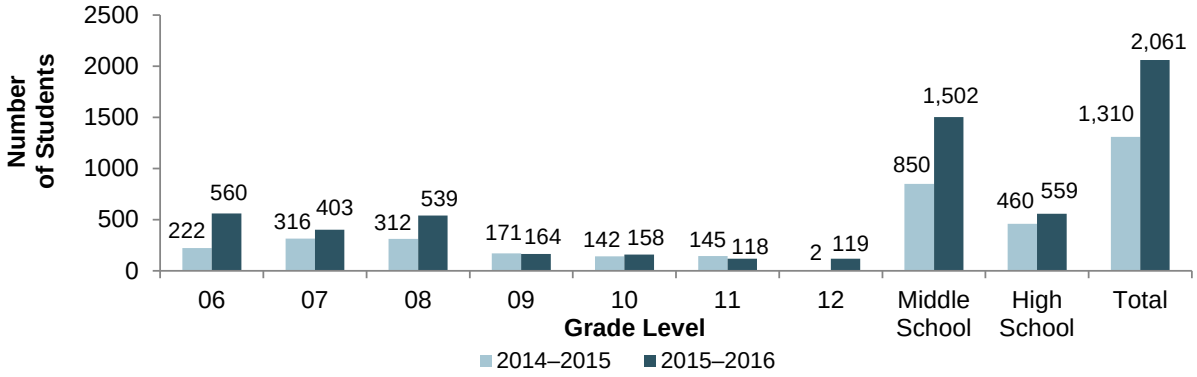
Figure 1. AVID participation, 2012–2013 through 2015–2016



Source: Cognos Chancery Ad Hoc, May 20, 2016; Department of Research and Accountability, February 2016

- **Figure 2** shows AVID participation increased at each middle school grade level and at grades 10 and 12 from 2014–2015 to 2015–2016, with the most growth at grade 12 (exceeding 50 times more or 5,850 percent) and grade six (152.3 percent). Grade 11 had the largest decline (18.6 percent).

Figure 2. AVID participation by grade level, 2014–2015 and 2015–2016



Source: Cognos Chancery Ad Hoc, March 20, 2016; Department of Research and Accountability, February, 2016

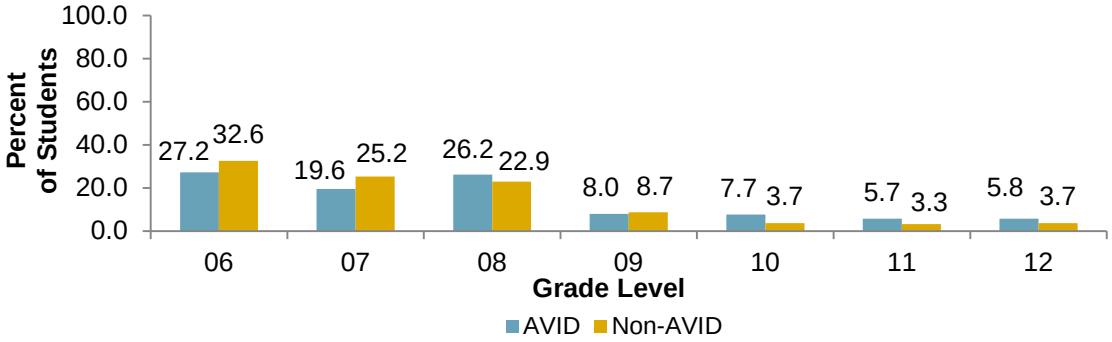
How did the characteristics of 2015–2016 AVID participants compare to the characteristics of their non-AVID counterparts?

- There were 2,061 AVID participants (Table 1, p. 29) and 10,064 non-AVID students (**Table 2**, p. 30) at the same grade levels as AVID students (**Table 3**, p. 31) across the 23 AVID campuses in HISD in 2015–2016.

- To assess the extent to which AVID participation was comparable to non-AVID participation at each grade level, **Figure 3** shows the proportions of the total number of AVID and non-AVID students by grade level. To indicate comparable AVID participation, the proportion of AVID students was expected to be similar to the proportion of non-AVID students at the same grade level.

- The proportions of AVID and non-AVID students were most comparable at grade nine, with a difference of 0.7 percentage points. The proportions of AVID students and non-AVID students differed most at grade seven by 5.6 percentage points (Table 3).

Figure 3. Percentage of total AVID and total non-AVID students by grade level, 2015–2016



Source: Cognos Chancery Ad Hoc, May 20, 2016

- There were greater proportions of non-AVID than AVID students in grades six, seven, and nine and greater proportions of AVID than non-AVID students in grades eight and ten through twelve (Table 3).

- To assess similarities and differences between AVID students and non-AVID students further, **Figure 4** (p. 11) shows the percentages of AVID and non-AVID students by their demographic characteristics.

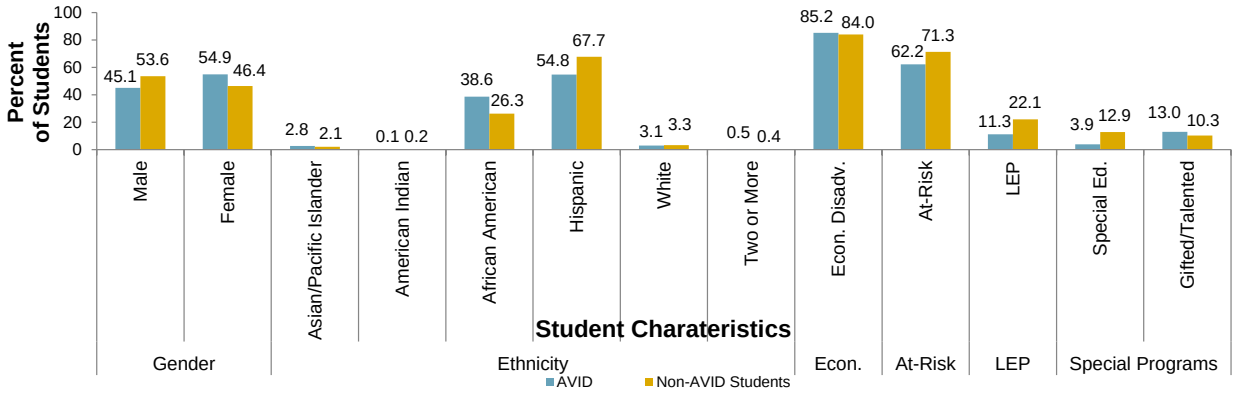
- A total of 93.4 percent of AVID students and 94.0 percent of non-AVID students were Hispanic or African American, with far more Hispanic than African American students.

- A greater proportion of AVID students (85.2 percent) was economically disadvantaged than the proportion among non-AVID students (84.0). However, a larger proportion of non-AVID students (71.3 percent) than AVID students (62.2 percent) was classified as students at-risk.

- Much larger proportions of LEP (22.1 percent) and special education students (12.9 percent) were found among non-AVID than among AVID students (11.3 percent and 3.9 percent, respectively).

- The proportion of gifted and talented students among AVID participants (13.0 percent) was greater than among non-AVID students (10.3 percent) (Figure 4; Table 3).

Figure 4. Demographic characteristics of unmatched AVID and non-AVID students, 2015–2016

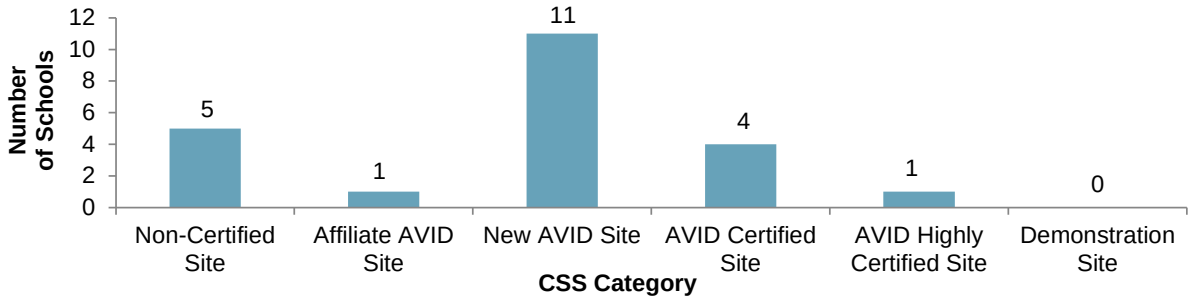


Source: Cognos Chancery Ad Hoc, May 20, 2016; Chancery SMS Database on July 7, 2016
Note: AVID n=2,061; non-AVID n=10,064. Economically Disadvantaged, At-Risk, Special Ed., and Gifted/Talented numbers represent duplicated counts across the categories.

What were the levels of AVID program implementation on HISD campuses with students enrolled in AVID elective courses?

- One-half of the 22 AVID campuses assessed were designated as New AVID Sites, based on their 2015–2016 Certification Self-Study (CSS) category, while nearly one-fourth of the schools were deemed Non-Certified Sites. One-fifth were ranked AVID Certified Sites and met certification standards at *Level 1-Meets Certification* or higher on all 11 AVID Essentials. None of the schools met the highest level of implementation fidelity for designation as a Demonstration Site. Implementation data for one of the 23 AVID schools were not submitted by its campus-based program administrators to the AVID program administrators at its central office (**Figure 5**; **Table 4**, p. 32).

Figure 5. The number of AVID schools rated in each AVID Certification Self-Study (CSS) category, 2015–2016



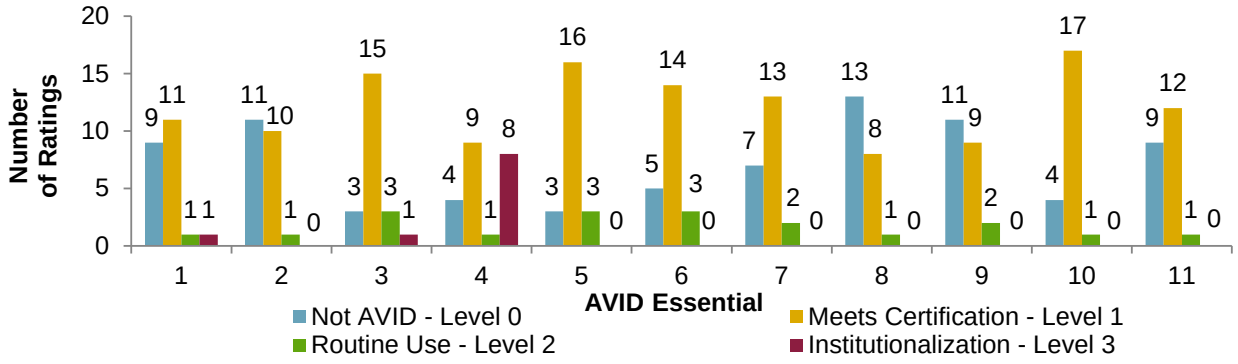
Source: 2015–2016 AVID Secondary Certification Entry System (online), May 23, 2016

- The greatest number of the *Level 0* (*Not AVID*) ratings were associated with Essential 8 (Tutors, n=13), followed by Essential 2 (Voluntary Participation, n=11) and Essential 9 (Data Collection, n=11). The largest number of *Level 1* (*Meets Certification Standards*) ratings were assessed regarding Essential 10 (Program Cost, Resources, Certification, and Staff Development, n=17), followed by Essential 5 (Strong Organizational Skills, n=16), and Essential 3 (Full Implementation of the Program, n=15) (**Figure 6**, p. 12; **Table 5**, p. 33).

- The largest number of the *Level 2* (*Routine Use*) ratings given was three, associated with Essential 3 (Full Implementation of the Program, n=3), Essential 5 (Strong Organizational Skills, n=3), and Essential 6 (Strong Writing and Reading Curriculum, n=3). The greatest number of *Level 3*

(*Institutionalization*) ratings were given for Essential 4 (Requirements for University Enrollment, n=8), followed by Essential 1 (Focus on Students in the Middle, n=1) and Essential 3 (Full Implementation of the Program, n=1) (Figure 6; Table 5, p. 33).

Figure 6. Number of ratings assessed at each level of program implementation for each of the 11 AVID Essentials on the Certification Self-Study (CSS), 2015–2016



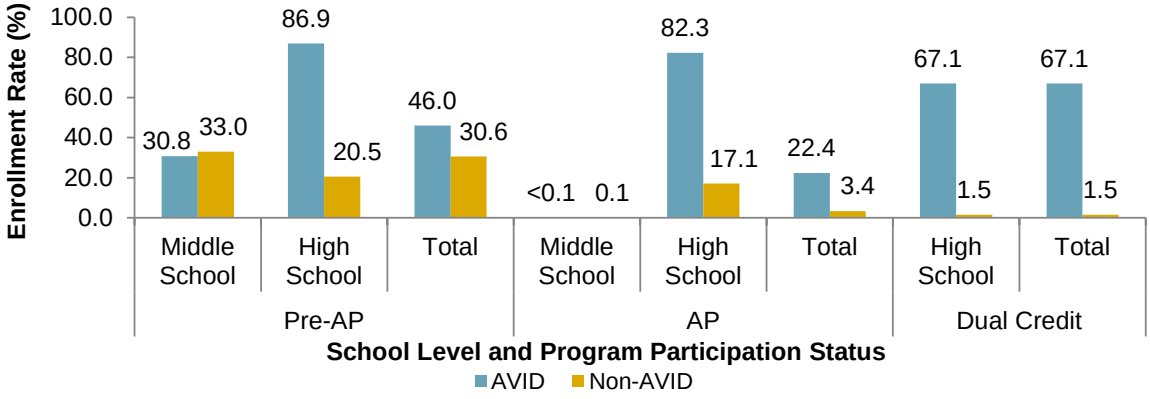
Source: 2015–2016 AVID Secondary Certification Entry System (online), May 23, 2016

Did AVID students enroll in more pre-AP, AP, and dual credit courses than non-AVID students?

- **Figure 7** shows, at the high school level and in total, AVID students enrolled in pre-Advanced Placement (pre-AP), Advanced Placement (AP), and dual credit courses at higher rates than their non-AVID peers (**Tables 6a and 6b**, p. 34).

- In total, nearly one-half of all AVID students (46.0 percent) and one-third of all non-AVID students (30.6 percent) enrolled in pre-AP courses. In addition, 22.4 percent of all AVID students versus 3.4 percent of all non-AVID students enrolled in AP courses and more than two-thirds of high school AVID (67.1 percent) and a much smaller percentage of non-AVID (1.5 percent) students enrolled in dual credit courses (Figure 8).

Figure 7. Enrollment rates for AVID and non-AVID students in pre-AP, AP, and dual credit courses, 2015–2016



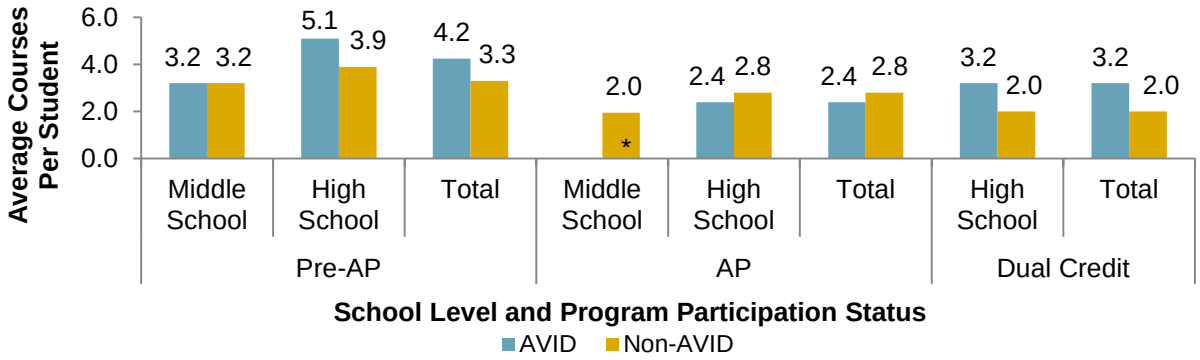
Source: Cognos Chancery Ad Hoc Student Information System, May 20, 2016; Chancery SMS Database Historical Grades File, July 7, 2016. Note: Course enrollment rates are based on the number of AVID or non-AVID students who took pre-AP, AP, and dual credit courses and the number of AVID or non-AVID students at the school level or in total.

- Large differences were found between the proportions of AVID students versus non-AVID students who enrolled in high school Pre-AP courses (86.9 percent and 20.5 percent, respectively), high school AP courses (82.3 percent and 17.1 percent, respectively), and high school dual credit courses (67.1 percent and 1.5 percent, respectively) (Figure 7, p. 12).

- Though the differences in middle school pre-AP and AP course enrollment were not large, greater proportions of non-AVID (33.0 percent and 0.1 percent) than AVID (30.8 percent and <0.1 percent) students enrolled.

- Per student course enrollment rates at middle and high school levels and in total show, on average, AVID students took 4.2 pre-AP courses, 2.4 AP courses, and/or 3.2 dual credit courses. Non-AVID students took of 3.3 pre-AP courses, 2.8 AP courses, and/or 2.0 dual credit courses on average, per student (**Figure 8**; **Table 6c**, p. 35). These rates are not cumulative across course types for a student.

Figure 8. Average number of courses per student for AVID and non-AVID students who were enrolled in pre-AP, AP, and dual credit courses, 2015–2016



Source: Cognos Chancery Ad Hoc Student Information System, May 20, 2016; Chancery SMS Database Historical Grades File, July 7, 2016. Note: Per student enrollment rates are based on the number of students who took pre-AP, AP, and dual credit courses. Per student rates are not cumulative across course types for a single student.

- Students in AVID had a higher course per student enrollment rate in pre-AP courses at the high school level and in total as well as in dual credit courses than did non-AVID students based on the number of students who took the courses and the total AVID participants and non-AVID students at each school level or in total (Figure 8; Table 6c).

- Non-AVID course per student enrollment rates in AP courses were higher than AVID student rates in high school and in total (Figure 8; Table 6c).

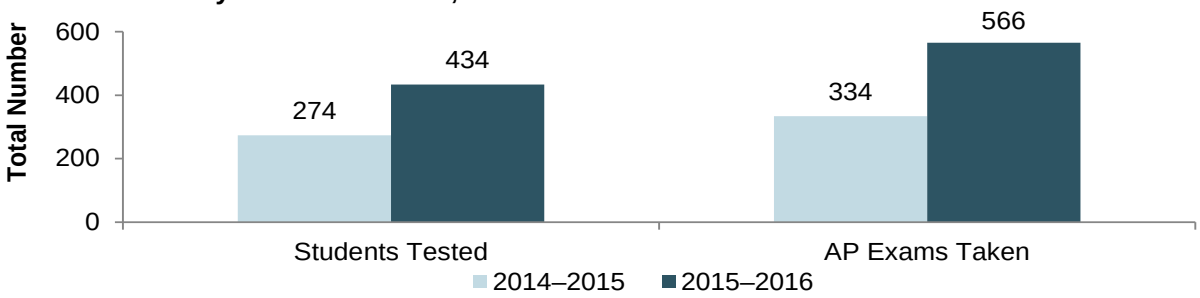
How did the levels of AP exam participation and performance of students in the AVID program compare between the 2014–2015 and 2015–2016 school years?

- **Figure 9** (p. 14) shows the number of AVID students taking AP exams increased from 274 in 2014–2015 to 434 in 2015–2016 (**Table 7**, p. 35).

- The percentage of AVID participants who took AP exams increased 0.2 percentage points, from 20.9 percent in 2014–2015 to 21.1 percent in 2015–2016 (Table 7).

- The number of AP exams taken by students in AVID increased by 232 exams (69.5 percent) from 334 exams in 2014–2015 to 566 exams in 2015–2016 (Figure 9, p. 14; Table 7).

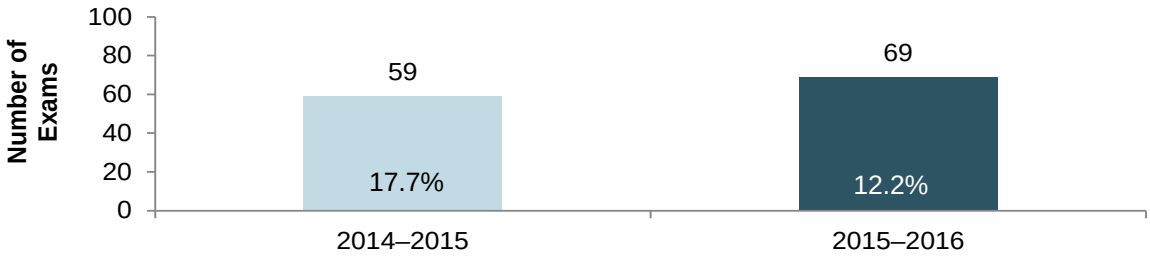
Figure 9. Number of students in AVID tested on AP exams and the number of AP exams taken by students in AVID, 2014–2015 and 2015–2016



Source: HISD AP Exam 2015—16_07-26-16 data file; Department of Research and Accountability, February 2016

- The number of AP exams on which AVID students scored a three or higher increased 16.9 percent, from 59 to 69 exams from 2014–2015 to 2015–2016. However, in the same years, the proportion of AP exams on which AVID students scored a three or higher decreased 5.5 percentage points (**Figure 10**; Table 7, p. 35).

Figure 10. Number and percentage of AP exams on which AVID students scored three or higher, 2014–2015 and 2015–2016

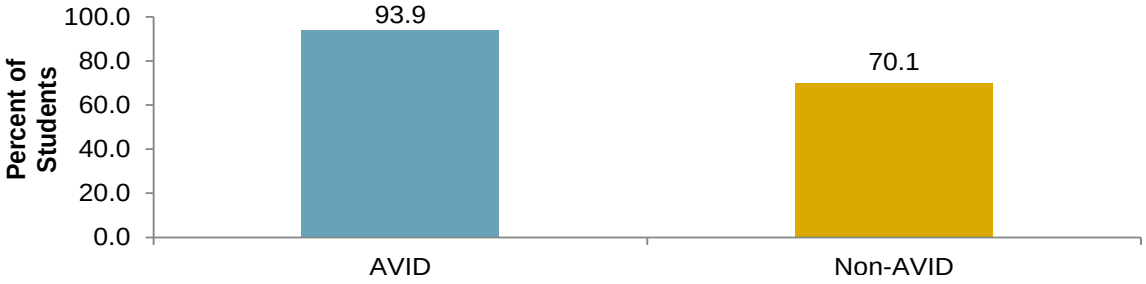


Source: HISD AP Exam 2015—16_07-26-16 data file; Department of Research and Accountability, February 2016

Did AVID students complete more AP exams and score higher than their non-AVID counterparts?

- In 2015–2016, 434 AVID participants took AP exams, which represented 93.9 percent of the 462 AVID students who enrolled in AP courses. A lower percentage, 70.1 percent, (239 out of 341) non-AVID participants who enrolled in AP courses took AP exams in 2015–2016 (**Figure 11**; **Table 8**, p. 35).

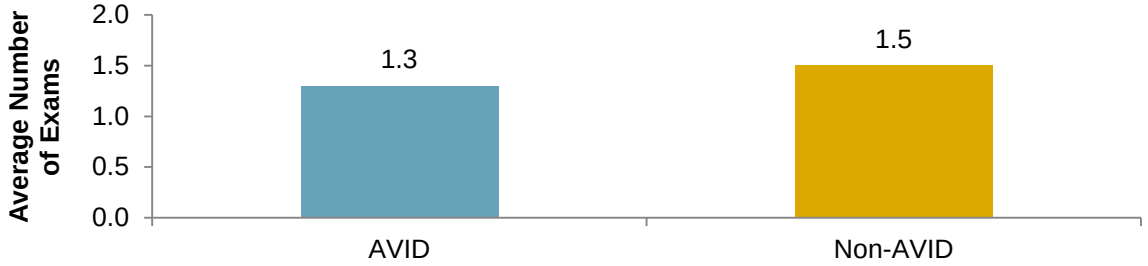
Figure 11. Percentage of students in AVID and their non-AVID peers who took AP exams, 2015–2016



Source: HISD AP Exam 2015—16_07-26-16 data file

- A total of 434 AVID students completed 566 AP exams for an average of 1.3 AP exams per student and 239 non-AVID students completed 366 AP exams, a higher average number of exams taken per student (1.5) than taken by AVID students (**Figure 12**, p. 15; Table 8).

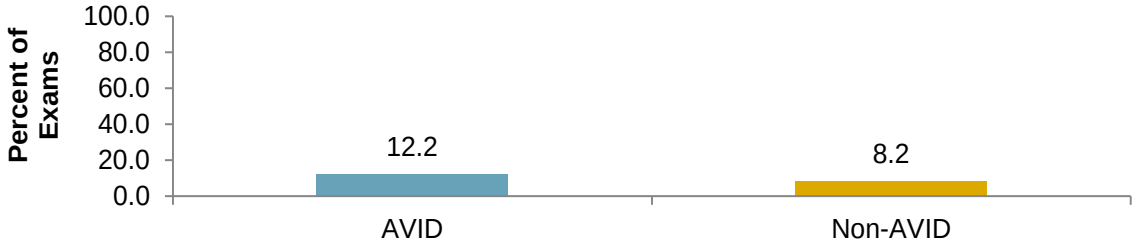
Figure 12. Average number of AP exams taken per student by students in AVID and their non-AVID peers, 2015–2016



Source: HISD AP Exam 2015—16_07-26-16 data file

- **Figure 13** shows that the percentage of AP exams on which students scored three or higher was 4.0 percentage points greater among AVID than non-AVID students (Table 8, p. 35).

Figure 13. Percentage of AP exams on which AVID students and their non-AVID peers scored three or higher, 2015–2016

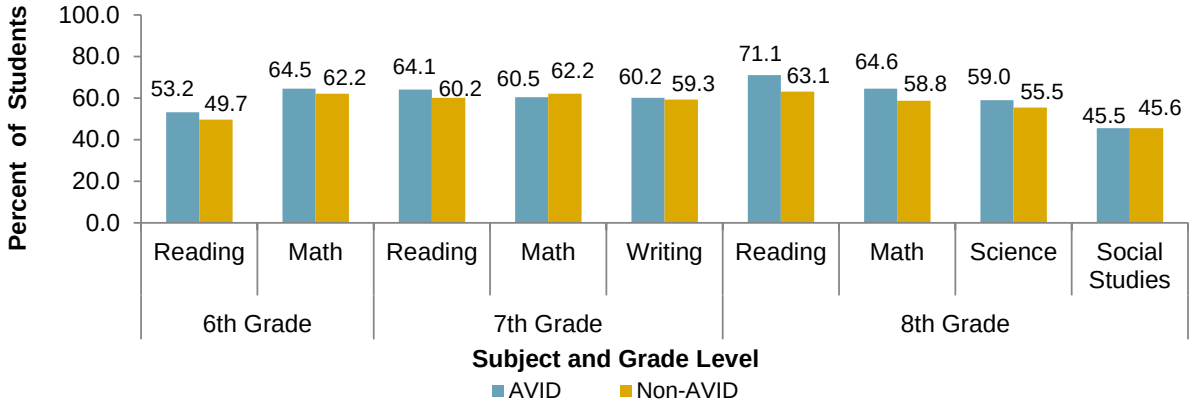


Source: HISD AP Exam 2015—16_07-26-16 data file

Did students in AVID receive more Level II and Level III Advanced scores on the STAAR and STAAR EOC examinations than their non-AVID counterparts?

- **Figure 14** shows AVID students met the Level II Satisfactory performance standards at higher rates than non-AVID students on all STAAR tests administered, except grade seven math and grade eight social studies. The largest differences were at grade eight in reading (8.0 percentage points) and math (5.8 percentage points) (**Table 9**, p. 36).

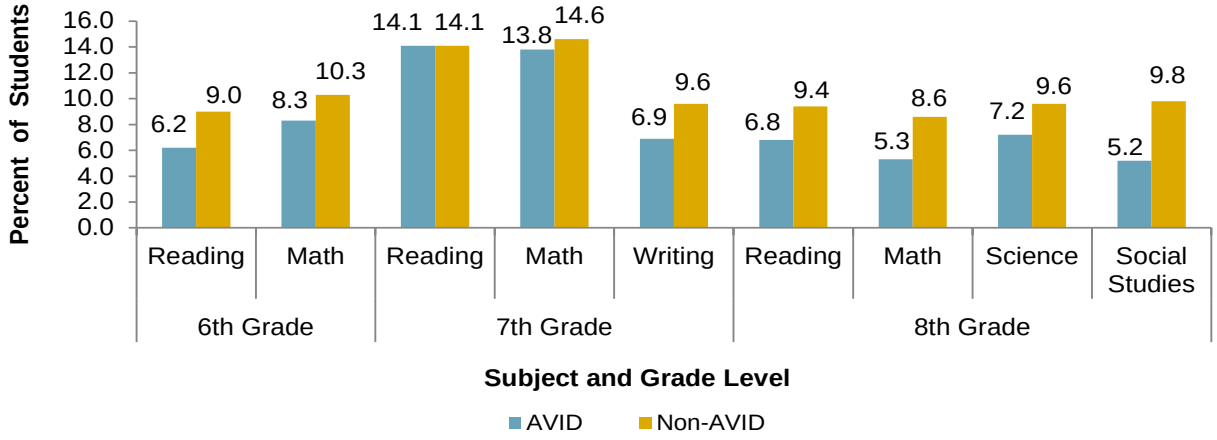
Figure 14. STAAR Level II Satisfactory 2016 Progression Standard performance for AVID and non-AVID students in grades 6–8, 2015–2016



Source: Cognos Chancery STAAR All Inclusive All Students, all test versions, STAAR 3–8, July 11, 2016

- Non-AVID students met the Level III Advanced performance standard at higher rates than AVID students on all STAAR tests administered, except grade seven reading. The largest differences were at grade eight in mathematics (3.3 percentage points) and social studies (4.6 percentage points) (**Figure 15**; Table 9, p. 36).

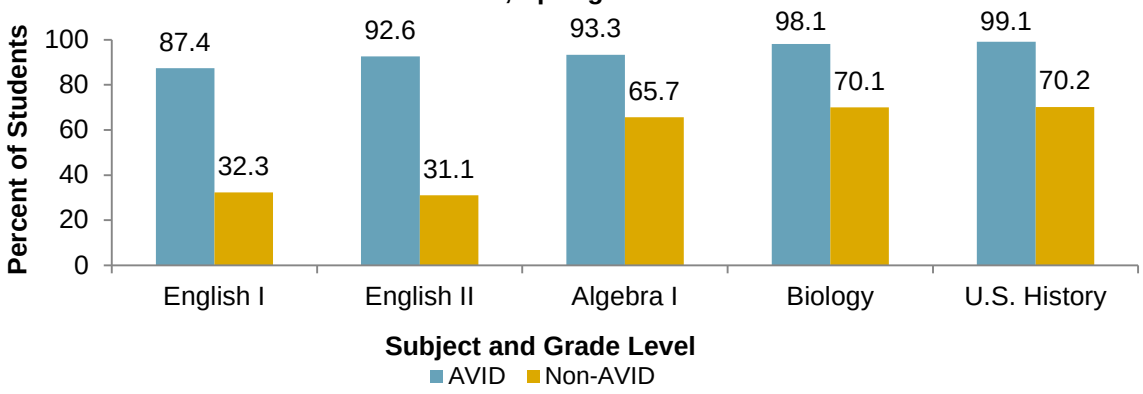
Figure 15. STAAR Level III Advanced performance for AVID and non-AVID students, 2015–2016



Source: Cognos Chancery STAAR All Inclusive All Students, all test versions, STAAR 3–8, July 11, 2016

- STAAR EOC Level II Satisfactory Student Standard results presented in **Figure 16** show students enrolled in AVID met the Level II performance standards at higher rates than did non-AVID students on all five exams. The largest differences were in English I (55.1 percentage points) and English II (61.5 percentage points) (**Table 10**, p. 36).

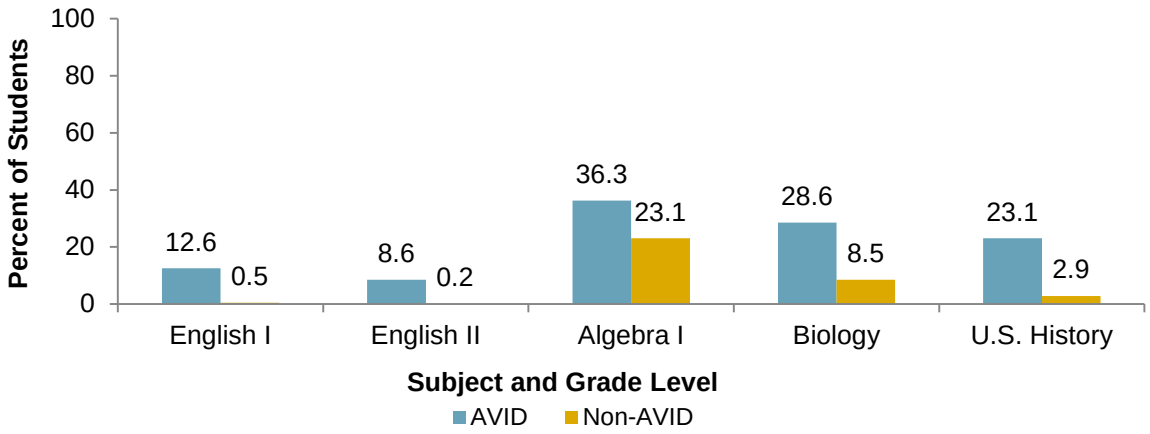
Figure 16. STAAR End of Course Level II Satisfactory Student Standard performance for AVID and non-AVID students, Spring 2016



Source: Cognos Chancery STAAR All Inclusive All Students, all test versions, July 27, 2016

- STAAR EOC Level III Advanced results presented in **Figure 17** (p. 17) show students enrolled in AVID met Level III Advanced standards at higher rates than did non-AVID students on all five exams. The largest differences were in Biology (20.1 percentage points) and U.S. History (20.2 percentage points) (Table 10).

Figure 17. STAAR End of Course Level III Advanced performance for AVID and non-AVID students, Spring 2016



Source: Cognos Chancery STAAR All Inclusive All Students, all test versions, July 27, 2016
Note: STAAR EOC performance results for first time and retesters were included in the analysis.

What accomplishments were achieved by graduating seniors who participated in the AVID program in 2015–2016, as reported by campus and district staff?

- All graduating seniors who attended Houston Academy for International Studies (HAIS) or Madison High School and participated in the AVID program during the 2015–2016 school year completed at least one college application.

- Collectively, the 97 AVID seniors who attended HAIS during the 2015–2016 academic year earned more than $6,000,000 in two- and four-year grants and scholarship offers. This represented a 17.5 percent increase over the $5,104,808 earned by last years' HAIS seniors in AVID.

- Collectively, the 22 Madison High School seniors who attended AVID during the 2015–2016 academic year and who were eligible to apply to college earned more than $100,000, annually, in two- and four-year grants and scholarship offers.

- More than 50 percent of HAIS graduating seniors (50 out of 97 seniors) earned Associates degrees from the Houston Community College in May 2016. Of them, approximately 10 percent achieved the Highest Honors.

- To further their academic studies, HAIS graduates were accepted into Colby College, University of Virginia, University of Rochester, Dartmouth, Columbia, Dillard, Jackson State, Hawaii Pacific, and others. Of them, three seniors were accepted into the Posse programs at Colby College and the University of Virginia.

- To further their academic studies, Madison High School graduates were accepted into Brandeis University, the University of Houston, Texas A&M at Corpus Christi, Lamar University, Texas Southern University, the University of Texas, and others. Of them, two seniors were accepted into the Posse programs, including one student at Texas A&M.

- The third AVID high school, Yates, did not have any participants in their senior year of high school.

Matched Comparisons of AVID and Non-AVID Student Performance and the Impact of the AVID Program AVID Student Performance

Did students in AVID make higher course grades in Pre-AP, AP, and dual credit courses than their non-AVID counterparts?

- Matched on demographic characteristics and the previous year's performance, results showed the differences between AVID and non-AVID students' grades were not of statistical significance as measured by their mean pre-AP, AP, and dual credit course grades (**Table 11**, p. 37).

- Results for matched AVID and non-AVID students revealed a statistically significant, positive treatment effect of the AVID program on the average grades of AVID students taking pre-AP courses in grades 10–12, as associated with course grades that were an estimated 2.4 points higher (p=.017) (**Table 12**, p. 37).

- No other findings from the treatment-effects analyses were statistically significant.

Did students in AVID receive higher mean scores on the STAAR and STAAR EOC examinations than their non-AVID counterparts?

- Matched on demographic characteristics, the previous year's performance, and the number of years of campus participation in AVID, results showed a statistically significant difference between STAAR reading scores at grade six for matched AVID and non-AVID students, with AVID students scoring 17.3 points higher than their non-AVID peers (p=.050) (**Table 13**, p. 38).

- A statistically significant, positive treatment effect of the AVID program on the STAAR reading performance of grade six AVID students was found. They scored an estimated, average 11.4 points higher due to AVID participation (p=.028) (**Table 14**, p. 38).

- As previously noted, data limitations regarding sample size, collinearity, and treatment overlap assumption violations precluded analyses of program effects on STAAR performance for grade seven writing and grade eight science and social studies.

- STAAR EOC scores for first time and retesters were included. Matched on demographic characteristics, previous year's performance, and the number of years of campus participation in AVID, results showed none of the performance differences between matched AVID and non-AVID students on English I, English II, and U.S. History STAAR EOC exams were statistically significant (**Table 15**, p. 39).

- Analysis of the program's treatment effects on AVID students' STAAR EOC performances on English I, English II, and U.S. History showed none were of a substantial magnitude (**Table 16**, p. 39). Data limitations regarding sample size, collinearity, and treatment overlap assumption violations precluded analyses of program effects on Algebra I and Biology scores.

Did students in AVID score higher on PSAT 8/9, PSAT/NMSQT, and SAT exams than their non-AVID counterparts?

- Matched on demographic characteristics and the previous year's performance, results showed a statistically significant difference between PSAT 8/9 mathematics scores at grade eight for matched AVID and non-AVID students, with non-AVID students scoring 19.9 points higher than their AVID peers (p=.028) (**Table 17**, p. 40).

- Statistically significant, negative treatment effects of the AVID program on the PSAT 8/9 mathematics and total scores of grade eight AVID students were found, as associated with an estimated, average 7.2 points lower mathematics score (p=.035) and 11.2 points lower in total scores (p=.022) (**Table 18**, p. 40).

- Matched on demographic characteristics and the previous year's performance, results showed a statistically significant difference between PSAT NMSQT mathematics scores at grade 11 for matched AVID and non-AVID students, with non-AVID students scoring 55.8 points higher than their AVID peers (**Table 19**, p. 41).

- Statistically significant, negative treatment effects of the AVID program on PSAT NMSQT mathematics and total scores of grade 11 AVID students were found, as associated with an estimated, average 53.1 points lower mathematics score (p=.030) and 77.9 points lower in total scores (p=.047) (**Table 20**, p. 41).

- Matched on demographic characteristics and the previous year's performance, results showed the differences between AVID and non-AVID students' SAT scores were not of statistical significance. No substantial program impacts were found regarding the SAT exam (**Table 21** and **Table 22**, p. 42).

Summary

- Sixty-nine percent (n=20) of the 29 preliminary, unmatched comparisons showed AVID students scored higher than non-AVID students across measures. The differences were statistically significant (p.<.05) in 60.0 percent (n=12) of the 20 unmatched comparisons in which AVID students scored higher than their non-AVID peers. Sufficient data were not available for Algebra I and Biology STAAR EOC exams.

- Matched comparisons showed AVID students scored higher than non-AVID students in 55.2 percent (n=16) of the 29 comparisons across measures. On only one measure, the grade six STAAR reading exam, was the performance difference statistically significant (p.<.05). This constituted 6.3 percent of the 16 matched comparisons in which AVID students scored higher than their non-AVID peers. Similarly, on only one measure, the grade 11 PSAT NMSQT exam, was the performance difference in favor of non-AVID students and statistically significant (p.<.05). This constituted 7.7 percent of the 13 matched comparisons in which non-AVID students scored higher than their AVID peers.

- Analyses of program effects found that AVID had positive impacts on AVID student performance in 55.2 percent (n=16) of the 29 comparisons across measures, but, on only two measures was the impact statistically significant (p.<.05), the grade six STAAR reading exam and the grades 10–12 pre-AP course grades. This constituted 12.5 percent of the 16 analyses that found favorable AVID impacts.

- On the other hand, analyses of program effects estimated AVID had negative impacts on AVID student performance in 44.8 percent (n=13) of the 29 comparisons across measures. The negative impact was statistically significant (p.<.05) on four measures, the grade eight PSAT 8/9 mathematics and total score and on the PSAT NMQST grade 11 mathematics and total score. This constituted 30.8 percent of the 13 analyses that found unfavorable AVID impacts, which is more than twice the estimated amount of favorable AVID impacts.

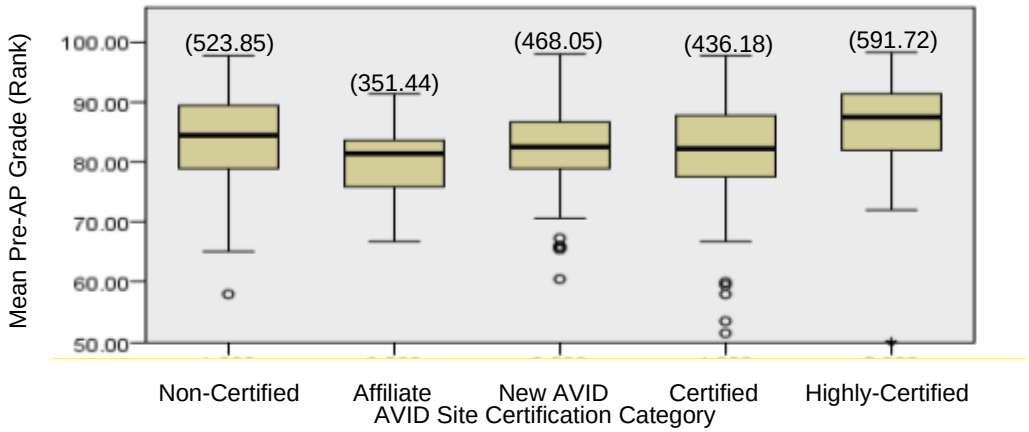
What were the effects of AVID implementation fidelity on AVID student performance?

Course Grades

- To determine if AVID students' performances differed depending upon the level of their campuses' program implementation fidelity, the mean ranks of AVID students' grades 6–12 pre-AP, AP, and dual credit course grades were compared based on their schools' AVID CSS certification category.

- The comparison of students' mean pre-AP course grades revealed a statistically significant difference in the mean ranks of AVID students' pre-AP grades between schools with different certification levels, ($x^2(4)=24.890$, $p<0.001$) (**Figure 18**).

Figure 18. Comparison of AVID campuses' mean ranks based on their students' pre-AP course grades by campuses' AVID Certification Self-Study (CSS) category, 2015–2016



Source: Cognos Chancery Ad Hoc Historical Grades File, July 7, 2016.
Note: None of the students were on Highly-Certified campuses. Bold horizontal bars show mean ranks.

- The mean ranks presented in Figure 18 show AVID students' pre-AP performance was best on Highly-certified campuses (591.72). However, their performance was higher on non-Certified campuses (523.85) than on more highly certified campuses (New AVID (468.05), Certified (436.18), and Affiliate (351.44)); with students on Certified campuses earning lower grades than students on New AVID campuses.

- The difference in AVID students' pre-AP course grades between AVID schools with Affiliate versus Highly-Certified certification levels was statistically significant ($p<0.05$, $r=0.46$), indicative of a favorable, intermediate program effect.

- Statistically significant differences were found in AVID students' pre-AP course grades between schools with Certified and Highly-Certified ($p<0.05$, $r=0.14$) AVID certification levels. However, the program effects were small.

- There were also statistically significant differences in AVID students' pre-AP course grades between schools with Affiliate and Non-Certified ($p<0.05$, $r=0.28$) and Certified and Non-Certified ($p<0.05$, $r=0.12$) AVID certification levels, indicating small program effects.

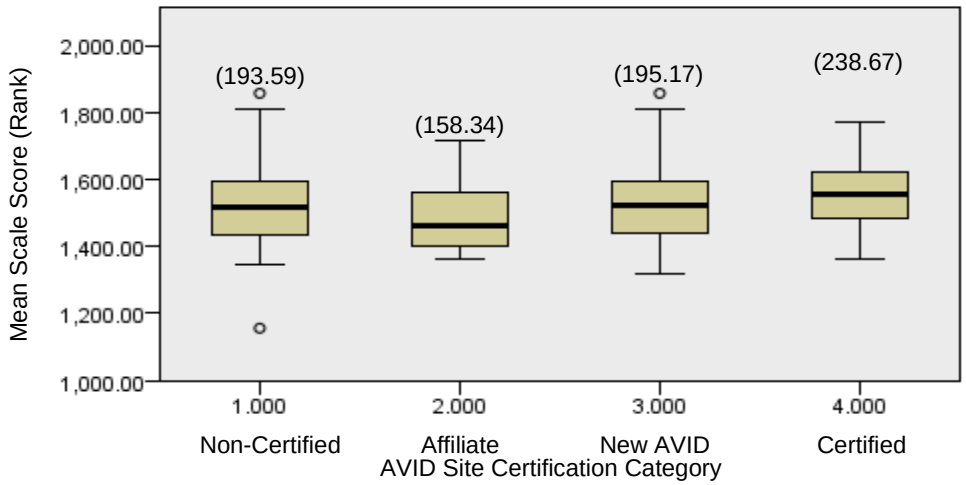
- No statistically significant performance differences were observed in AP course grades between students on campuses with different certification levels.

- There were insufficient numbers of cases at different levels of AVID program implementation fidelity to determine if AVID students' dual credit course grades were impacted by their schools' AVID certification category.

STAAR Scores

- To determine if AVID students' performances differed depending upon the level of their campuses' AVID program implementation fidelity, the mean ranks of AVID students' STAAR scale scores were compared based on their schools' AVID CSS certification category (**Figure 19**).

Figure 19. Comparison of AVID students' average mean ranks for grade six STAAR reading scale scores by campuses' AVID certification level, 2015–2016



Source: Cognos Chancery Ad Hoc Historical Grades File, July 11, 2016.
Note: None of the students were on Highly-Certified campuses. Bold horizontal bars show mean ranks.

- A comparison of students' mean scale scores revealed a statistically significant difference in the mean ranks of STAAR reading scores of grade six AVID students between schools with different certification levels, ($x^2(3)=9.848$, $p<0.05$) (Figure 19).

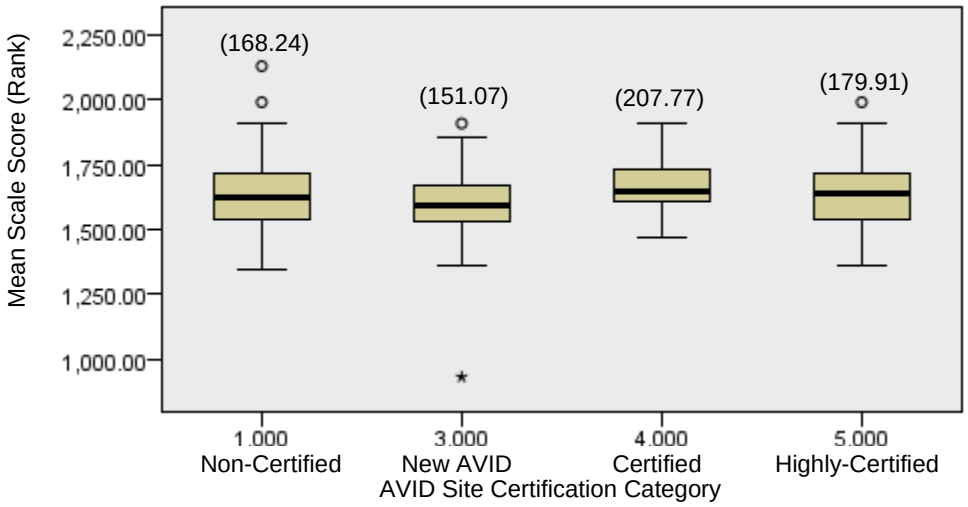
- The mean ranks presented in Figure 19 show grade six AVID students' STAAR reading performance was best on Certified (238.67) and New AVID (195.17) campuses versus the campuses with lower certification status.

- AVID students' performance on non-Certified campuses (193.59) was better than their performance on Affiliate campuses (158.34) where AVID students scored lowest.

- The difference in grade six AVID students' STAAR reading scores between AVID schools with Affiliate versus Certified certification levels was statistically significant ($p<0.05$, $r=0.30$), indicative of a favorable, intermediate program effect.

- A comparison of the mean ranks of grade seven AVID students' STAAR reading scale scores grouped by their schools' AVID CSS certification category revealed a statistically significant difference in the mean ranks of STAAR reading scores of grade seven AVID students between schools with different certification levels, ($x^2(3)=13.219$, $p<0.05$) (**Figure 20**, page 22).

Figure 20. Comparison of AVID students' average mean ranks for grade seven STAAR reading scale scores by campuses' AVID certification level, 2015–2016

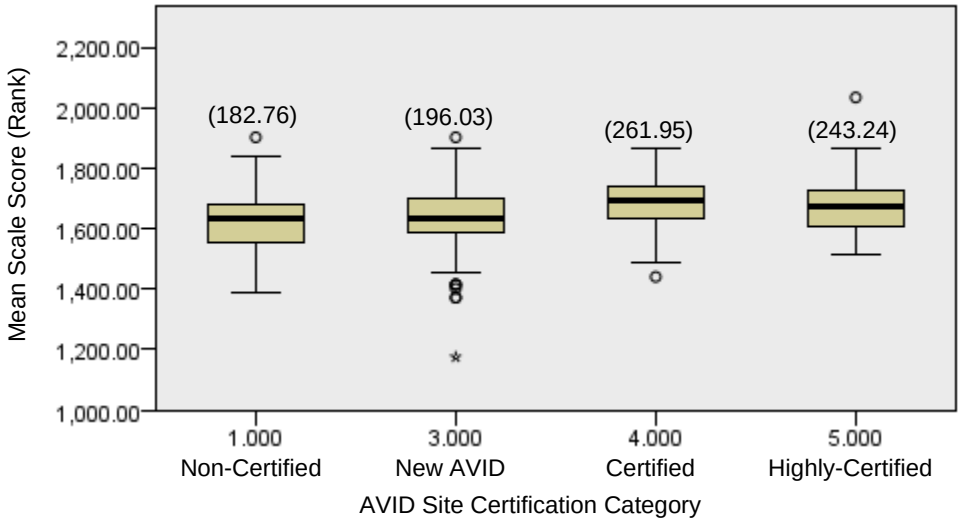


Source: Cognos Chancery Ad Hoc Historical Grades File, July 11, 2016
Note: None of the students were on Affiliate campuses. Bold horizontal bars show mean ranks.

- The mean ranks presented in Figure 20 show grade seven AVID students' STAAR reading performance was best on Certified (207.77) and Highly-Certified (179.91) campuses versus the campuses with lower certification levels. However, their performance was better on Certified than on Highly-Certified campuses and better on non-Certified (168.24) than on New AVID campuses (151.07), where AVID students scored lowest.

- The difference in AVID students' grade seven STAAR reading scores between AVID schools with New AVID and Certified certification levels was statistically significant ($p<0.05$, $r=0.24$), indicative of a favorable, but small program effect.

Figure 21. Comparison of AVID students' average mean ranks for grade eight STAAR reading scale scores by campuses' AVID certification level, 2015–2016



Source: Cognos Chancery Ad Hoc Historical Grades File, July 11, 2016.
Note: None of the students were on Affiliate campuses. Bold horizontal bars show mean ranks.

- A comparison of the mean ranks of grade eight AVID students' STAAR reading scale scores grouped by their schools' AVID CSS certification category revealed a statistically significant difference in the mean ranks of students' STAAR reading scores between schools with different certification levels, ($x^2(3)=22.512$, $p<0.05$) (**Figure 21**, page 22).

- The means presented in Figure 21 show grade eight AVID students' STAAR reading performance was best on Certified (261.95) and Highly-Certified (243.24) campuses versus the campuses with lower certification ratings (Non-Certified, 182.76 and New AVID, 196.03). In addition, students' performance was better on New AVID (196.03) than on Non-Certified campuses (182.76) where AVID students scored lowest.

- The differences in AVID students' grade eight STAAR reading scores between AVID schools with Non-Certified and Highly-Certified certification levels ($p<0.05$, $r=0.21$) and between AVID schools with New AVID and Certified certification levels ($p<0.05$, $r=0.24$) were statistically significant, indicative of a favorable, but small program effects.

- There were statistically significant differences in AVID students' grade eight STAAR reading scores between schools with Non-Certified and Certified ($p<0.05$, $r=0.30$) AVID certification levels, indicative of a favorable, intermediate effect of the program.

STAAR EOC Scores

- There were insufficient numbers of cases at different levels of AVID program implementation fidelity to determine if AVID students' performances were impacted by their schools' AVID certification category.

Summary

- Across measures, AVID students on AVID campuses that were Certified or Highly-Certified achieved the highest mean ranks based on their course grades and exam scale scores, when compared to the mean ranks attained by AVID students on campuses with lower AVID certification levels.

- Only in pre-AP courses did AVID students on Non-Certified AVID and New AVID campuses attain the second- and third-highest mean ranks, exceeding the rank of AVID students on Certified campuses.

- Statistical significance ($p<0.5$) was found among AVID students who achieved higher pre-AP course grades (grades 6–12) and STAAR reading scores (grades 6–8) on AVID campuses that were Certified or Highly-Certified. The results are indicative of small to medium impacts of the AVID program.

- There were no statistically significant performance differences in AP course grades between students on campuses with different certification levels.

- Data at different levels of AVID program implementation were insufficient to determine if AVID students' dual credit course and STAAR EOC performances were impacted by their schools' AVID certification.

Discussion

The district has implemented the AVID program to improve equity and close achievement gaps by targeting students who (1) are in the academic "middle" and earn grades of B, C, and D; (2) desire to go to college; (3) are willing to work hard; (4) are capable of completing rigorous curricula; and (5) are not reaching their full academic potential. Typically, these students (1) are enrolled in regular (non-gifted/talented, non-special education) classes; (2) are economically disadvantaged or are from non-White families; (3) are underrepresented in four-year colleges; and (4) possess the potential to become first-generation college students (Houston Independent School District, 2011).

Student participation in the AVID program increased 25.6 percent over the last four years. Its highest enrollment was in 2015–2016, with a 57.3 percent increase from 2014–2015 (n=1,310) to 2015–2016 (n=2,061). This included increases of 76.7 percent among middle school students and 21.5 percent among high school students. From 2013–2014 to 2014–2015, AVID participation decreased 10.4 percent, including a 45.6 percent decrease at the high school level due to changes in AVID participation which resulted in five 2013–2014 AVID high schools that for various reasons did not have their contracts for participation renewed in 2014–2015. The federal Race To The Top grant (managed through the Linked Learning Department) began funding middle school students' participation in AVID in 2014–2015, which resulted in a 37.8 increase at the middle school level from 2013–2014 to 2014–2015. In addition, this grant has been largely responsible for middle school enrollment almost doubling since the 2014–2015 school year.

To further support program participation, it may prove beneficial to ensure that all students who meet the criteria targeted by the district for program participation are appropriately identified and encouraged to participate in AVID. Based on the disproportionality of AVID students versus non-AVID students in 2015–2016, continued focus on the inclusion of African American and economically disadvantaged students is warranted. In addition, heightened attention to the recruitment of Hispanic and American Indian students, students at-risk, and English language learners, particularly at grades six, seven, and nine is encouraged.

The levels of program implementation on AVID campuses reveal the need for improvement in program fidelity. Only 72.7 percent of the 22 "AVID" campuses assessed were designated as AVID sites (n=16), based on their 2015–2016 AVID Certification Self-Study (CSS) categories of New AVID, Certified, and Highly-Certified AVID sites. None of the schools met the highest level of implementation fidelity to be designated a Demonstration Site. The gaps in program fidelity may well indicate deficits in AVID services on HISD campuses and may account for some of the disparate results of the matched comparison analyses, as discussed later in this section.

Findings of this report show higher total pre-AP, AP, and dual credit course enrollment rates for AVID than for non-AVID students. When AVID and non-AVID students were matched to create comparable groups for rigorous statistical analyses, achievement results were mixed. None of the performance differences between matched AVID and non-AVID students in pre-AP, AP, and dual credit courses were of statistical significance. However, the results showed AVID had a positive, statistically significant treatment effect on pre-AP course grades in grades 10–12, associated with an average gain of 2.4 points due to AVID participation.

Analyses in this report also revealed AVID students achieved higher pre-AP course grades (grades 6–12) and STAAR reading scores (grades 6–8) on AVID campuses that were Certified or Highly-Certified than AVID students attained on these measures on campuses with lower AVID certification levels. Statistically significant performance differences between campuses of different certification levels revealed small to medium effects of the AVID program, on these measures.

In light of research that found the highest levels of AVID certification produced higher student achievement in course enrollment and other academic outcomes (Johnston, Nickel, Popp, & Marcus, 2010), the disparate findings of this report support the need to institute instructional improvements (including AVID's strategies) to enhance supports for student learning and achievement in all AVID students' courses. In turn, improved program implementation fidelity should boost AVID students' performance in pre-AP, AP, and dual credit courses as well as on all state-mandated assessments, because implementation fidelity moderates the relationship between interventions and their intended outcomes (Elliot & Mihalic, 2004).

From 2014–2015 to 2015–2016, the percentage of AVID students taking AP exams increased only 0.2 percentage points. However, the percentage of exams on which AVID students scored three or higher decreased 12.2 percentage points in the same period. Nonetheless, a greater proportion of AVID students who enrolled in AP courses took AP exams (93.9 percent) and scored three or higher (12.2 percent) than did non-AVID students (70.1 percent and 8.2 percent, respectively) in 2015–2016. To a degree, these results are consistent with prior research showing AVID students' academic participation and outcomes are greater than their non-AVID peers (Johnston, Nickel, Popp, & Marcus, 2010; Murray, 2012). However, proactive steps to identify gaps in teaching and learning in pre-AP, AP, and dual credit courses may help further improve AVID student performance in all areas, including advanced coursework and exams.

Previous research also indicated students in an AVID program show higher mean scores than non-AVID students on state-mandated assessments of reading, mathematics, and science (Murray, 2012). Preliminary, descriptive, and statistical analyses conducted for this report showed favorable AVID results diminished with greater analytical rigor (i.e., using matched samples of AVID and non-AVID students). Specifically, while AVID students achieved higher mean scores than non-AVID students in five of the nine matched comparisons of state-mandated tests scores, the results were statistically significant in only one case (i.e., grade six AVID students scored an average 17.3 points higher on STAAR reading exams than their non-AVID peers). On the same exam, an estimated positive treatment effect of the AVID program showed an average gain of 11.4 points due to AVID participation. However, none of the performance differences between matched AVID and non-AVID students on STAAR EOC exams (English I, English II, and U.S. History) were of statistical significance and none of the program effects were substantial.

In 2015–2016, the performances of matched AVID and non-AVID students on college readiness exams showed statistically significant differences in favor of non-AVID students on mathematics and total scores at grades eight (PSAT 8/9) and eleven (PSAT NMSQT). The AVID program was found to have statistically significant, negative impacts on students' performances on these measures. However, no significant performance differences or program impacts were found regarding the SAT exam.

Analyses of the matched performances of AVID students across the assessed standardized measures highlight crucial areas for program improvements, as confirmed by results of the program effects on AVID student performance. A study in which cognitive principles were applied to education interventions concluded that AVID's conventional strategies (unlike metacognitive approaches) do not support long-term retention and transfer of knowledge. Some researchers have suggested this may explain AVID's failure to demonstrate strong program effects on students' learning and study skills (Education Week, 2015). Therefore, it may prove beneficial for AVID administrators to explore ways to improve student learning and retention to heighten the academic performance of AVID students.

Moreover, to better prepare more students in AVID for greater levels of success in advanced courses and exams, state-mandated assessments, and college-readiness exams, program administrators should consider confirming AVID campuses' program adherence to the 11 factors that AVID has identified to guide

the overall program philosophy, successful implementation of the program, and the success of AVID students (Contreras, et al., 2009). Careful attention to the program features may prove beneficial to improve program participation and fidelity, as well as heighten positive student achievement outcomes among students in the AVID program. It is recommended that AVID administrators in HISD closely examine the extent to which AVID schools and teachers in HISD implement each of the 11 AVID Essential factors, which include heightened professional development of all AVID stakeholders, employing the AVID curriculum without exception, and providing greater instructional supports, as necessary, for AVID students to be as successful as possible in all courses and on all examinations.

As indicated in the Data Limitations section, it is important to note that in HISD, AVID teachers also teach non-AVID students and use the same instructional strategies as used with AVID students. This approach is consistent with AVID's new, broader mission of whole school reform (Magee, 2015). However, this practice may be indicative of a form of 'contamination' of the comparison group through a 'bleed-over' of treatment. Therefore, analyses of program effects included in this report should be considered with caution. For increased rigor, future analyses of program effects may include statistical matching of AVID students with students on comparable, non-AVID campuses.

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Table 1. Number of AVID participants by grade level and school, 2015–2016								
School Name	**Grade Level**							**Total**
	6th	**7th**	**8th**	**9th**	**10th**	**11th**	**12th**	
Burbank MS	-	68	-	-	-	-	-	**68**
Clifton MS	31	-	-	-	-	-	-	**31**
Cullen MS	118	135	125	-	-	-	-	**378**
Deady MS	46	18	85	-	-	-	-	**149**
Dowling MS	-	-	46	-	-	-	-	**46**
Edison MS	41	-	-	-	-	-	-	**41**
Fleming MS	27	-	-	-	-	-	-	**27**
Fondren MS	-	-	59	-	-	-	-	**59**
Fonville MS	31	-	-	-	-	-	-	**31**
Henry MS	29	-	-	-	-	-	-	**29**
Holland MS	32	-	-	-	-	-	-	**32**
Jackson MS	29	24	40	-	-	-	-	**93**
McReynolds MS	32	*1	-	-	-	-	-	**33**
Ortíz MS	44	51	69	-	-	-	-	**164**
Revere MS	-	55	46	-	-	-	-	**101**
Stevenson MS	22	18	22	-	-	-	-	**62**
Thomas MS	-	17	47	-	-	-	-	**64**
Welch MS	32	*2	-	-	-	-	-	**34**
West Briar MS	19	14	-	-	-	-	-	**33**
Williams MS	27	-	-	-	-	-	-	**27**
Middle School Total	**560**	**403**	**539**	-	-	-	-	**1,502**
Houston Academy for International Studies HS^	-	-	-	^118	^127	^90	^97	**432**
Madison HS	-	-	-	18	31	27	22	**98**
Yates HS	-	-	-	28	-	*1	-	**29**
High School Total	-	-	-	164	158	118	119	**559**
AVID Total	**560**	**403**	**539**	**164**	**158**	**118**	**119**	**2,061**

Source: Cognos Chancery Ad Hoc Student Information System, May 20, 2016
Note: -Indicates no AVID students were enrolled. *For grade levels with fewer than five AVID students, non-AVID students were not included in the comparison group. ^All students on the Houston Academy for International Studies high school campus participated in AVID. Therefore, no non-AVID students were available for the comparison group and HAIS students were excluded from analyses that used matched comparisons. (See non-AVID student counts in Table 2, p. 30.)

Table 2. Number of non-AVID students at AVID schools and grade levels, 2015–2016								
School Name	**Grade Level**							**Total**
	6th	**7th**	**8th**	**9th**	**10th**	**11th**	**12th**	
Burbank MS	-	408	-	-	-	-	-	**408**
Clifton MS	246	-	-	-	-	-	-	**246**
Cullen MS	75	93	101	-	-	-	-	**269**
Deady MS	169	199	181	-	-	-	-	**549**
Dowling MS	-	-	325	-	-	-	-	**325**
Edison MS	177	-	-	-	-	-	-	**177**
Fleming MS	134	-	-	-	-	-	-	**134**
Fondren MS	-	-	202	-	-	-	-	**202**
Fonville MS	255	-	-	-	-	-	-	**255**
Henry MS	247	-	-	-	-	-	-	**247**
Holland MS	190	-	-	-	-	-	-	**190**
Jackson MS	212	280	263	-	-	-	-	**755**
McReynolds MS	171	*	-	-	-	-	-	**171**
Ortíz MS	294	287	280	-	-	-	-	**861**
Revere MS	-	376	388	-	-	-	-	**764**
Stevenson MS	400	419	437	-	-	-	-	**1,256**
Thomas MS	-	160	129	-	-	-	-	**289**
Welch MS	239	*	-	-	-	-	-	**239**
West Briar MS	326	317	-	-	-	-	-	**643**
Williams MS	142	-	-	-	-	-	-	**142**
Middle School Total	**3,277**	**2,539**	**2,306**	-	-	-	-	**8,122**
Houston Academy for International Studies HS^	-	-	-	^	^	^	^	**-**
Madison HS	-	-	-	618	369	329	368	**1,684**
Yates HS	-	-	-	258	-	*	-	**258**
High School Total	-	-	-	**876**	**369**	**329**	**368**	**1,942**
Non-AVID Total	**3,277**	**2,539**	**2,306**	**876**	**369**	**329**	**368**	**10,064**

Source: Cognos Chancery Ad Hoc Student Information System, May 20, 2016
Note: -Indicates no AVID students were enrolled, therefore, non-AVID students were not included in the comparison group.*For grade levels with fewer than five AVID students, non-AVID students were not included in the comparison group. ^All students on the Houston Academy for International Studies high school campus participated in AVID. Therefore, no students were available for the matched, non-AVID comparison group and the campus was excluded from analyses that used matched comparisons for student performance. (See AVID student counts in Table 1, p. 29.)

Table 3. Grade levels and characteristics of AVID participants and non-AVID participants at AVID schools, 2015–2016				
	AVID Students (N=2,061)		Non-AVID Students (N=10,064)	
	N	%	N	%
Grade				
6	560	27.2	3,277	32.6
7	403	19.6	2,539	25.2
8	539	26.2	2,306	22.9
9	164	8.0	876	8.7
10	158	7.7	369	3.7
11	118	5.7	329	3.3
12	119	5.8	368	3.7
Total	**2,061**	**100.0**	**10,064**	**100.0**
Gender				
Male	930	45.1	5,399	53.6
Female	1,131	54.9	4,665	46.4
Total	**2,061**	**100.0**	**10,064**	**100.0**
Race/Ethnicity				
Asian/Pacific Islander	57	2.8	209	2.1
American Indian/Alaska Native	3	0.1	18	0.2
African American	796	38.6	2,647	26.3
Hispanic	1,130	54.8	6,816	67.7
White	64	3.1	336	3.3
Two or more	11	0.5	38	0.4
Total	**2,061**	**100.0**	**10,064**	**100.0**
Economic Disadvantaged	1,755	85.2	8,456	84.0
At-Risk	1,281	62.2	7,179	71.3
LEP	233	11.3	2,227	22.1
Special Education	80	3.9	1,301	12.9
Gifted/Talented	268	13.0	1,041	10.3

Source: Cognos Chancery Ad Hoc Student Information System, May 20, 2016; Chancery SMS Database on July 7, 2016
Note: Economic Disadvantaged, At-Risk, Special Ed., and Gifted/Talented numbers represent duplicated counts.

Table 4. AVID school by *number of years implementing AVID and Certification Self-Study level of program implementation, 2015–2016

School Name	Years in AVID	Certification Self-Study – Implementation Level					
		Non-Certified Site	Affiliate AVID Site	New AVID Site	AVID Certified Site	AVID Highly Certified Site	Demonstration Site
Burbank MS	2			X			
Clifton MS	1			X			
Cullen MS	1			X			
Deady MS	2	X					
Dowling MS	1			X			
Edison MS	1	-	-	-	-	-	
Fleming MS	1			X			
Fondren MS	1			X			
Fonville MS	1			X			
Henry MS	4				X		
Holland MS	4		X				
Jackson MS	3	X					
McReynolds MS	3			X			
Ortíz MS	4				X		
Revere MS	4					X	
Stevenson MS	2	X					
Thomas MS	2	X					
Welch MS	2			X			
West Briar MS	2	X					
Williams MS	1			X			
Houston Academy for International Studies HS	4				X		
Madison HS	4				X		
Yates HS	3			X			
AVID Total	-	5	1	11	4	1	0

Non-Certified Site
A site that has never been certified and has one or more Essentials rated as "Not AVID" (Level 0) and is working to implement all 11 AVID Essentials.

Affiliate AVID Site
A former AVID Certified Site or Affiliate site that has one or more Essentials rated as "Not AVID" (Level 0). Site Team is working to implement all 11 AVID Essentials.

New AVID Site
A site implementing AVID for the first time at the start of this academic year.

AVID Certified Site
A site with all Essentials rated "Meets Certification Standards" (Level 1) or higher.

AVID Highly Certified Site
A site that meets certification standards (all 11 Essentials at Level 1 or higher), has at least six Essentials rated "Routine Use" (Level 2) and/or "Institutionalization" (Level 3), has been certified for at least two consecutive years, and has been implementing for a minimum of four years.

Sources: 2015–2016 AVID Secondary Certification Entry System (online), May 23, 2016; Department of Research and Accountability, May 2014, June 2015, and February 2016 (historical data for the number of years campuses have participated in AVID)
Note: *Indicates the number of years sites implemented AVID in the last four years. No data were available for Edison MS.

Table 5. Certification Self-Study levels for AVID Essentials by number and AVID campus, 2015–2016

School Name (n=23)	Certification Self-Study: AVID Essential Ratings 1	2	3	4	5	6	7	8	9	10	11	Total
Burbank MS	0	0	0	1	0	0	0	0	0	0	0	
Clifton MS	1	0	1	1	1	1	0	0	0	1	1	
Cullen MS	1	1	2	0	1	1	1	1	1	1	1	
Deady MS	0	0	0	1	0	0	0	0	0	0	0	
Dowling MS	1	1	1	1	1	1	1	0	1	1	1	
Edison MS	-	-	-	-	-	-	-	-	-	-	-	
Fleming MS	1	0	1	3	1	1	1	1	1	1	1	
Fondren MS	1	0	1	0	1	1	0	1	0	1	0	
Fonville MS	1	0	1	3	1	0	0	0	0	1	0	
Henry MS	1	1	1	3	1	1	1	1	1	1	1	
Holland MS	0	0	0	1	0	0	0	0	0	0	0	
Jackson MS	0	0	1	0	1	1	1	0	1	1	1	
McReynolds MS	1	1	1	3	1	1	1	0	1	1	1	
Ortíz MS	1	1	1	1	1	1	1	1	1	1	1	
Revere MS	2	2	2	1	2	2	2	2	2	2	2	
Stevenson MS	1	1	1	1	1	1	1	0	0	1	0	
Thomas MS	0	0	1	0	1	0	0	0	0	1	0	
Welch MS	0	1	1	3	1	1	1	0	0	1	1	
West Briar MS	0	0	1	3	1	1	1	0	0	0	0	
Williams MS	0	0	1	3	1	1	1	0	0	1	1	
Houston Academy for International Studies HS	3	1	3	3	2	2	1	1	2	1	1	
Madison HS	1	1	2	2	2	2	2	1	1	1	1	
Yates HS	0	1	1	1	1	1	1	1	1	1	0	
AVID Total - Level 0	**9**	**11**	**3**	**4**	**3**	**5**	**7**	**13**	**11**	**4**	**9**	**79**
AVID Total - Level 1	**11**	**10**	**15**	**9**	**16**	**14**	**13**	**8**	**9**	**17**	**12**	**134**
AVID Total - Level 2	**1**	**1**	**3**	**1**	**3**	**3**	**2**	**1**	**2**	**1**	**1**	**19**
AVID Total - Level 3	**1**	**0**	**1**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**10**

Essential 1 Focus on Students in the Middle	**Essential 2** Voluntary Participation	**Essential 3** Full Implementation of the Program
Essential 4 Requirements for University Enrollment	**Essential 5** Strong Organizational Skills	**Essential 6** Strong Writing and Reading Curriculum
Essential 7 Collaboration and Inquiry to Promote Critical Thinking	**Essential 8** Tutors	**Essential 9** Data Collection
Essential 10 Program Cost, Resources, Certification, and Staff Development	**Essential 11** Active AVID Site Team	

Source: 2015–2016 AVID Secondary Certification Entry System (online), May 23, 2016
Note: No data were available for Edison MS. AVID Essentials are described on page 6 of this report.

Table 6a. Number of AVID and non-AVID students enrolled in pre-AP, AP, and dual credit courses by course type and school level, 2015–2016

	Pre-AP		AP		Dual Credit		Total Students	
	AVID	Non-AVID	AVID	Non-AVID	AVID	Non-AVID	AVID	Non-AVID
Middle School Students	463	2,678	2	8	-	-	**1,502**	**8,122**
High School Students	486	399	460	333	375	29	**559**	**1,942**
Total Students	**949**	**3,077**	**462**	**341**	**375**	**29**	**2,061**	**10,064**

Table 6b. Number of pre-AP, AP, and dual credit course enrollments for AVID and non-AVID students by course type, school level, and school, 2015–2016

	Pre-AP		AP		Dual Credit		Total Enrollments*	
	AVID	Non-AVID	AVID	Non-AVID	AVID	Non-AVID	AVID	Non-AVID
Middle School								
Burbank MS	184	620	-	-	-	-	**184**	**620**
Clifton MS	26	403	-	-	-	-	**26**	**403**
Cullen MS	57	5	-	-	-	-	**57**	**5**
Deady MS	44	519	-	-	-	-	**44**	**519**
Dowling MS	202	160	-	-	-	-	**202**	**160**
Edison MS	112	164	-	-	-	-	**112**	**164**
Fleming MS	1	56	-	-	-	-	**1**	**56**
Fondren MS	9	33	-	-	-	-	**9**	**33**
Fonville MS	15	136	-	-	-	-	**15**	**136**
Henry MS	36	282	-	-	-	-	**36**	**282**
Holland MS	90	217	-	-	-	-	**90**	**217**
Jackson MS	21	589	-	-	-	-	**21**	**589**
McReynolds MS	8	128	-	-	-	-	**8**	**128**
Ortíz MS	321	658	-	-	-	-	**321**	**658**
Revere MS	108	658	4	16	-	-	**112**	**174**
Stevenson MS	158	2,037	-	-	-	-	**158**	**2,037**
Thomas MS	17	193	-	-	-	-	**17**	**193**
Welch MS	-	162	-	-	-	-	**-**	**162**
Westbriar MS	48	1,575	-	-	-	-	**48**	**1,575**
Williams MS	2	39	-	-	-	-	**2**	**39**
Middle School Total Course Enrollments	**1,459**	**8,634**	**4**	**16**	**-**	**-**	**1,463**	**8,650**
High School								
Houston Academy for International HS	2,101	-	931	-	1,209	-	**4,241**	**-**
Madison HS	263	1,429	152	931	9	58	**424**	**2,418**
Yates HS	122	113	1	2	-	-	**123**	**115**
High School Total Course Enrollments	**2,486**	**1,542**	**1,084**	**933**	**1,218**	**58**	**4,788**	**2,533**
Total Course Enrollments	**3,945**	**10,176**	**1,088**	**949**	**1,218**	**58**	**6,251**	**11,183**

Source: Cognos Chancery Ad Hoc Student Information System, May 20, 2016; Chancery SMS Database Historical Grades File, July 7, 2016

Table 6c. AVID and non-AVID students' average per student enrollment rates in pre-AP, AP, and dual credit courses by course type and school level, 2015–2016

	Pre-AP		AP		Dual Credit	
	AVID	Non-AVID	AVID	Non-AVID	AVID	Non-AVID
Middle School Students	463	2,678	2	8	-	-
High School Students	486	399	460	333	375	29
Total Students	**949**	**3,077**	**462**	**341**	**375**	**29**
Middle School Course Enrollments	1,459	8,634	4	16	-	-
High School Course Enrollments	2,486	1,542	1,084	933	1,218	58
Total Course Enrollments	**3,945**	**10,176**	**1,088**	**949**	**1,218**	**58**

Source: Cognos Chancery Ad Hoc Student Information System, May 20, 2016; Chancery SMS Database Historical Grades File, July 7, 2016

Note: The average per student enrollment rates were calculated by dividing the number of course enrollments at each school level and in total by the number of students at each school level and in total.

Table 7. AP examination participation and performance results for AVID students, 2014–2015 and 2015–2016

	2014–2015 (N=1,310)		2015–2016 (N=2,061)		Change
	N	%	N	%	
AVID Students Taking Exams	274	20.9	434	21.1	0.2 ppts.
Exams Taken	334	-	566	-	232 exams
Exams Scored Three or Higher	59	17.7	69	12.2	-5.5 ppts.
Average Number of Exams per student	1.2	-	1.3	-	0.1 exams

Sources: HISD AP Exam 2015—16_07-26-16 data file; Department of Research and Accountability, February 2016

Note: * "ppts." means percentage points.

Table 8. AP examination participation and performance results for AVID and non-AVID students at AVID schools who enrolled in AP courses, 2015–2016

	AVID Participants Enrolled in AP Courses (N=462)		Non-AVID Students Enrolled in AP Courses (N=341)	
	N	%	N	%
AP Students Taking Exams	434	93.9	239	70.1
Exams Taken	566	-	366	-
Exams Scored Three or Higher	69	12.2	30	8.2
Average Number of Exams per student	1.3 exams	-	1.5 exams	-

Source: HISD AP Exam 2015—16_07-26-16 data file

Note: * "ppts." means percentage points.

Table 9. Percentage of all available STAAR Level II Satisfactory and Level III Advanced scores earned for AVID and Non-AVID students by grade level and subject, Spring 2016

Subject		N	Met Level II*	Met Level III**
Grade Level, 6				
Reading	AVID	515	**53.2**	6.2
	Non-AVID	3,261	49.7	**9.0**
Math	AVID	515	**64.5**	8.3
	Non-AVID	3,257	62.2	**10.3**
Grade Level, 7				
Reading	AVID	376	**64.1**	14.1
	Non-AVID	2,525	60.2	14.1
Math	AVID	370	60.5	13.8
	Non-AVID	2,436	**62.2**	**14.6**
Writing	AVID	379	**60.2**	6.9
	Non-AVID	2,507	59.3	**9.6**
Grade Level, 8				
Reading	AVID	485	**71.1**	6.8
	Non-AVID	2,244	63.1	**9.4**
Math	AVID	395	**64.6**	5.3
	Non-AVID	1,990	58.8	**8.6**
Science	AVID	483	**59.0**	7.2
	Non-AVID	2,218	55.5	**9.6**
Social Studies	AVID	483	45.5	5.2
	Non-AVID	2,266	**45.6**	**9.8**

Source: Cognos Chancery Ad Hoc, STAAR 3–8, July 11, 2016
Note: *Percent Met Level II, Satisfactory 2016 Progression Standard; **Percent Met Level III, Advanced Performance Standard. STAAR English 2015–2016 Level II* Performance Standards were reading grade 6 (1517), grade 7 (1567), grade 8 (1587); math grade 6 (1536), grade 7 (1575), grade 8 (1595); writing grade 7 (3550), science grade 8 (3550), social studies grade 8 (3550). Level III* 2015–2016 Advanced Performance Standards were reading grade 6 (1718), grade 7 (1753), grade 8 (1783); math grade 6 (1772), grade 7 (1798), grade 8 (1854); writing grade 7 (4602), science grade 8 (4406), social studies grade 8 (4268).

Table 10. Percentage of available STAAR EOC Level II Satisfactory and Level III Advanced scores earned for AVID and Non- AVID students by subject, Spring 2016

Subject		N	Met Level II*	Met Level III**
English I	AVID	167	**87.4**	**12.6**
	Non-AVID	935	32.3	0.5
English II	AVID	163	**92.6**	**8.6**
	Non-AVID	595	31.1	0.2
Algebra I	AVID	179	**93.3**	**36.3**
	Non-AVID	1,127	65.7	23.1
Biology	AVID	161	**98.1**	**28.6**
	Non-AVID	803	70.1	8.5
U.S. History	AVID	117	**99.1**	**23.1**
	Non-AVID	376	70.2	2.9

Source: Cognos Chancery Ad Hoc, STAAR EOC, July 27, 2016
Note: *Percent Met Level II, Satisfactory Student Standard; **Percent Met Level III, Advanced Performance Standard.

Table 11. Propensity Score Matching results for AVID and Non-AVID students'^ mean course grades by course type, 2015–2016

		AVID		Non-AVID					
		N	Mean Grade	N	Mean Grade	Mean Difference	Std. Error	*t*	1-tailed *p*
Grades, 6–9									
	Unmatched	449	83.31	2,605	**84.31**	-1.00	.389	-2.57	.005*
Pre-AP	**Matched**		83.31		**83.38**	-0.08	.674	-0.11	.456
Grades, 10–12									
	Unmatched	58	**82.18**	189	79.35	2.83	1.460	1.94	.027*
Pre-AP	**Matched**		**82.03**		80.19	1.83	3.569	0.51	.305
	Unmatched	47	**77.19**	276	76.32	0.88	1.879	0.47	.319
AP	**Matched**		**77.19**		76.43	0.77	8.552	0.09	.464
	Unmatched		70.00		**73.52**	-3.52	8.580	-0.41	.343
Dual Credit	**Matched**	5	70.00	22	**74.60**	-4.6	11.445	-0.40	.346

Source: PEIMS 15–16; Chancery SMS Database Historical Grades File, July 7, 2016
Note: ^Included in the analyses were students who were enrolled on October 30, 2015 (i.e., PEIMS inclusion , had an average daily attendance rate greater than zero, and who had spring 2015 STAAR Reading scores (2015–2016 grades 6–9) or 2014–2015 cumulative GPA (2015–2016 grades 10–12) only. Students were matched on economic, at-risk, special education, gifted/talented, limited English proficiency statuses, and their prior year's cumulative GPA (2015–2016 grades 10–12) or spring 2015 STAAR performance (2015–2016 grades 6–9). *Indicates p<0.05.

Table 12. Results for estimated average AVID treatment effects on course grades for AVID students by grade levels and course type, 2015–2016

	Program Effects	Coefficient	AI Robust Standard Error	z	P> |z|	[95% Confidence Interval]	
Grades, 6–9							
Pre-AP	**AVID**/ATET	.0321261	.4305192	0.07	0.941	-.811676	.8759283
Grades, 10–12							
Pre-AP	**AVID**/ATET	2.427603	1.01994	2.38	0.017*	.4285566	4.426649
AP	**AVID**/ATET	-.3029529	1.329679	-0.23	0.820	-2.909076	2.30317
Dual Credit	**AVID**/ATET	-.9602217	1.398341	-0.69	0.492	-3.70092	1.780477

Source: PEIMS 15–16; Chancery SMS Database Historical Grades File, July 7, 2016
Note: *Indicates statistically significant p<0.05. Grade levels with fewer than five AVID students were not matched with non-AVID students and were not included in the analyses. Program/Treatment-effects – AVID/ATET indicates the estimated average treatment effect among AVID students.

Table 13. Propensity Score Matching results for identified AVID and non-AVID students^ by grade level and STAAR subject, 2015–2016

		AVID		Non-AVID					
		N	Mean Scale Score	N	Mean Scale Score	Mean Difference	Std. Error	*t*	1-tailed *p*
Reading									
Grade 6	Unmatched		1527.38		**1529.99**	-2.61	7.18	-0.36	.359
	Matched	395	**1527.38**	2,475	1510.06	17.32	10.51	1.65	.050*
Grade 7	Unmatched		**1618.64**		1610.70	7.94	7.73	1.03	.152
	Matched	327	1616.72	2,008	**1622.23**	-5.51	15.43	-0.36	.359
Grade 8	Unmatched		**1638.74**		1630.71	8.03	6.70	1.20	.115
	Matched	406	1638.74	1,785	**1648.19**	-9.45	10.89	-0.87	.192
Math									
Grade 6	Unmatched		1593.99		**1601.40**	-7.41	7.40	-1.00	.159
	Matched	390	**1593.99**	2,417	1586.21	7.78	11.58	0.67	.251
Grade 7	Unmatched		1642.96		**1646.73**	-3.77	8.97	-0.42	.337
	Matched	319	1639.82	1,859	**1661.60**	-21.79	15.69	-1.39	.082
Grade 8	Unmatched		**1655.75**		1631.02	24.73	7.72	3.20	.0007*
	Matched	299	**1655.75**	1,364	1643.77	11.99	15.94	0.75	.227

Source: PEIMS 15–16; Cognos Chancery Ad Hoc, STAAR 3–8, July 11, 2016.
Note: ^Included in the analyses were students who were enrolled on October 30, 2015 (i.e., PEIMS inclusion), had an average daily attendance rate greater than zero, and who had spring 2014 and spring 2015 STAAR reading or math scores (2015–2016 grades 6–8) only. Students were matched on the number of years in which their school participated in the AVID program, their economic and at-risk statuses as well as their special education, gifted/talented, limited English proficiency statuses, and their spring 2015 STAAR reading or math scores. *Indicates statistically significant p<0.05. Writing, Science, and Social Studies data were not sufficient for analyses due to violations of the treatment overlap assumption or tests for collinearity.

Table 14. Results for estimated average AVID treatment effects on STAAR scale scores for AVID students by grade level and subject, 2015–2016

	Program Effects	Coefficient	AI Robust Standard Error	z	P> |z|	[95% Confidence Interval]	
Reading							
Grade 6	**AVID**/ATET	11.43187	5.201527	2.20	0.028*	1.237068	21.62668
Grade 7	**AVID**/ATET	12.73216	8.319905	1.53	0.126	-3.574555	29.03887
Grade 8	**AVID**/ATET	-4.138197	5.652131	-0.73	0.464	-15.21617	6.939777
Math							
Grade 6	**AVID**/ATET	7.614287	4.857901	1.57	0.117	-1.907024	17.1356
Grade 7	**AVID**/ATET	-4.207308	7.358499	-0.57	0.567	-18.6297	10.21508
Grade 8	**AVID**/ATET	14.34916	7.782431	1.84	0.065	-.904123	29.60244

Source: PEIMS 15–16; Cognos Chancery Ad Hoc, STAAR 3–8, July 11, 2016.
Note: *Indicates statistically significant p<0.05. Program/Treatment-effects – AVID/ATET indicates the estimated average treatment effect among AVID students.

Table 15. Propensity Score Matching results for identified AVID and Non-AVID students^ by STAAR EOC subject, Spring 2016

		AVID		Non-AVID					
Subject		**N**	**Mean Scale Score**	**N**	**Mean Scale Score**	**Mean Difference**	**Std. Error**	***t***	**1-tailed *p***
English I	Unmatched		3575.94		**3446.46**	129.48	105.28	1.23	.110
	Matched	17	**3575.94**	480	3463.35	112.59	135.58	0.83	.203
English II	Unmatched		**3751.35**		3442.42	308.93	60.13	5.14	<.001*
	Matched	48	**3751.35**	751	3713.54	37.81	96.852	0.39	.348
Algebra I	Unmatched		-		-	-	-	-	-
	Matched	-	-	-	-	-	-	-	-
Biology	Unmatched		-		-	-	-	-	-
	Matched	-	-	-	-	-	-	-	-
U.S. History	Unmatched		3498.00		**3533.87**	-35.87	105.47	-0.34	.367
	Matched	7	3498.00	283	**3660.57**	-162.57	233.48	-0.70	.242

Source: PEIMS 15–16; Cognos Chancery Ad Hoc, STAAR EOC, July 27, 2016.
Note: ^Included in the analyses were only students who were enrolled on October 30, 2015 (i.e., PEIMS inclusion), had an average daily attendance rate greater than zero, and who had a spring 2014–2015 cumulative GPA. Students were matched on the number of years in which their school participated in the AVID program, their economic and at-risk statuses as well as their special education, gifted/talented, limited English proficiency statuses, and their spring 2015 GPA.*Indicates statistically significant p<0.05. Algebra I and Biology data were not sufficient for analyses due to data limitations.

Table 16. Results for estimated average AVID treatment effects on STAAR EOC scale scores for AVID students by subject, Spring 2016

Subject	**Program Effects**	**Coefficient**	**AI Robust Standard Error**	**z**	**P>|z|**	**[95% Confidence Interval]**	
English I	**AVID**/ATET	-132.0756	138.4909	-0.95	0.340	-403.5128	139.3615
English II	**AVID**/ATET	132.3161	74.19221	1.78	0.075	-13.09801	277.7301
Algebra I	**AVID**/ATET	-	-	-	-	-	-
Biology	**AVID**/ATET	-	-	-	-	-	-
U.S. History	**AVID**/ATET	-79.14286	62.62593	-1.26	0.206	-201.8874	43.60171

Source: PEIMS 15–16; Cognos Chancery Ad Hoc, STAAR EOC, July 27, 2016.
Note: *Indicates statistically significant p<0.05. Program/Treatment-effects AVID/ATET indicates the estimated average treatment effect among AVID students. Algebra I and Biology data were not sufficient for analyses due to violations of the treatment overlap assumption or tests for collinearity. Algebra I and Biology data were not sufficient for analyses due to data limitations.

Table 17. Propensity Score Matching results for identified AVID and non-AVID students^ by grade level and PSAT 8/9 subject, 2015–2016

		AVID		Non-AVID					
		N	Mean Scale Score	N	Mean Scale Score	Mean Difference	Std. Error	*t*	1-tailed *p*
EBRW									
Grade 8	Unmatched		**371.84**		371.55	.29	3.63	0.08	.468
	Matched	386	**371.84**	1,628	369.66	2.18	10.02	0.22	.413
Grade 9	Unmatched		**385.15**		356.39	28.76	11.63	2.47	.007*
	Matched	33	**385.15**	463	379.39	5.76	16.05	0.36	.360
Math									
Grade 8	Unmatched		385.23		**389.47**	-4.24	4.10	-1.03	.152
	Matched	386	385.23	1,628	**405.10**	-19.87	10.34	-1.92	.028*
Grade 9	Unmatched		**377.58**		365.16	12.41	11.95	1.04	.149
	Matched	33	377.58	463	**395.76**	-18.18	18.16	-1.00	.159
Total Score									
Grade 8	Unmatched		757.07		**761.03**	-3.95	6.93	-0.57	.284
	Matched	386	757.07	1,628	**774.77**	-17.69	18.42	-0.96	.169
Grade 9	Unmatched		**762.73**		721.56	41.17	20.06	2.05	.020*
	Matched	33	762.73	463	**775.15**	-12.42	28.59	-0.43	.334

Source: PEIMS 15–16; Cognos Chancery Ad Hoc, HISD PSAT89 Fall 2015 data file, Feb. 26, 2016.
Note: ^Included in the analyses were students who were enrolled on October 30, 2015 (i.e., PEIMS inclusion), had an average daily attendance rate greater than zero, and who had spring 2014 and spring 2015 STAAR reading or math scores (2015–2016 grades 6–9) only. Students were matched on their economic and at-risk statuses as well as their special education, gifted/ talented, limited English proficiency statuses, and their spring 2015 STAAR reading or math scores. *Indicates statistically significant (p<0.05).

Table 18. Results for estimated average AVID treatment effects on PSAT 8/9 scale scores for AVID students by grade level and subject, 2015–2016

	Program Effects	Coefficient	AI Robust Standard Error	z	P> | z |	[95% Confidence Interval]	
EBRW							
Grade 8	**AVID**/ATET	-4.02	2.689814	-1.49	0.135	-9.287628	1.256251
Grade 9	**AVID**/ATET	2.709348	10.44614	0.26	0.795	-17.76471	23.18341
Math							
Grade 8	**AVID**/ATET	-7.222386	3.432295	-2.10	0.035*	-13.94956	-.4952114
Grade 9	**AVID**/ATET	-2.327167	13.66988	-0.17	0.865	-29.11963	24.4653
Total Score							
Grade 8	**AVID**/ATET	-11.23807	4.898268	-2.29	0.022*	-20.8385	-1.637645
Grade 9	**AVID**/ATET	.3821809	19.63725	0.02	0.984	-38.10612	38.87049

Source: PEIMS 15–16; Cognos Chancery Ad Hoc, HISD PSAT89 Fall 2015 data file, Feb. 26, 2016.
Note: *Indicates statistically significant p<0.05. Program/Treatment-effects – AVID/ATET indicates the estimated average treatment effect among AVID students.

Table 19. Propensity Score Matching results for identified AVID and non-AVID students^ by grade level and PSAT NMSQT subject, 2015–2016

		AVID		Non-AVID					
		N	Mean Scale Score	N	Mean Scale Score	Mean Difference	Std. Error	*t*	1-tailed *p*
EBRW									
Grade 10	Unmatched		**402.00**		374.53	27.47	12.78	2.15	.016*
	Matched	30	**402.00**	254	393.67	8.33	22.74	0.37	.356
Grade 11	Unmatched		**391.67**		385.32	6.35	15.90	0.40	.345
	Matched	24	391.67	220	**416.25**	-24.58	25.95	-0.95	.172
Math									
Grade 10	Unmatched		**433.33**		406.38	26.96	12.14	2.22	.014*
	Matched	30	**433.33**	254	417.67	15.67	21.98	0.71	.239
Grade 11	Unmatched		**417.5**		413.82	3.68	15.91	0.23	.409
	Matched	24	417.5	220	**473.33**	-55.83	28.55	-1.96	.026*
Total Score									
Grade 10	Unmatched		**835.33**		780.91	54.43	21.18	2.57	.005*
	Matched	30	**835.33**	254	811.33	24.00	40.17	0.60	.274
Grade 11	Unmatched		**809.17**		799.14	10.03	28.49	0.35	.363
	Matched	24	809.17	220	**889.58**	-80.42	49.19	-1.63	.052

Source: PEIMS 15–16; Cognos Chancery Ad Hoc, HISD PSAT Fall 2015 data file, Feb. 26, 2016.
Note: *Indicates p<0.05. ^Included in the analyses were students who were enrolled on October 30, 2015 (i.e., PEIMS inclusion, had an average daily attendance rate greater than zero, and who had spring 2015 cumulative GPA. Students were matched on their economic and at-risk statuses as well as their special education, gifted/ talented, limited English proficiency statuses, and their spring 2015 GPA.

Table 20. Results for estimated average AVID treatment effects on PSAT NMSQT scale scores for AVID students by grade level and subject, 2015–2016

	Program Effects	Coefficient	AI Robust Standard Error	z	P> |z|	[95% Confidence Interval]	
EBRW							
Grade 10	**AVID**/ATET	7.555556	18.07922	0.42	0.676	-27.87907	42.99018
Grade 11	**AVID**/ATET	-24.79167	18.54432	-1.34	0.181	-61.13786	11.55452
Math							
Grade 10	**AVID**/ATET	13.55556	17.62017	0.77	0.442	-20.97934	48.09045
Grade 11	**AVID**/ATET	-53.125	24.44746	-2.17	0.030*	-101.0411	5.208857
Total Score							
Grade 10	**AVID**/ATET	21.11111	31.02186	0.68	0.496	-39.69061	81.91284
Grade 11	**AVID**/ATET	-77.91667	39.14138	-1.99	0.047*	-154.6324	1.200973

Source: PEIMS 15–16; Cognos Chancery Ad Hoc, HISD PSAT Fall 2015 data file, Feb. 26, 2016.
Note: *Indicates statistically significant result (p<=.05). Program/Treatment-effects – AVID/ATET indicates the estimated average treatment effect among AVID students.

Table 21. Propensity Score Matching results for identified AVID and Non-AVID students^ by SAT subject, 2015–2016

		AVID		Non-AVID					
Subject		**N**	**Mean Scale Score**	**N**	**Mean Scale Score**	**Mean Difference**	**Std. Error**	***t***	***p***
Critical Reading	Unmatched		**400.91**		363.46	37.45	17.50	2.14	.017*
	Matched	22	**400.91**	292	396.36	4.55	24.15	0.19*	.425
Writing	Unmatched		**384.55**		348.18	36.36	16.04	2.27	.012*
	Matched	22	**384.55**	292	378.18	6.36	19.85	0.32*	.375
Math-ematics	Unmatched		**395.91**		361.20	34.71	19.14	1.81	.036*
	Matched	22	**395.91**	292	380.91	15.00	26.66	0.56	.288
Total Score	Unmatched		**1181.36**		1072.84	108.52	46.31	2.34	.010*
	Matched	22	**1181.36**	292	1155.45	25.91	62.26	0.42*	.337

Source: PEIMS 15–16; Cognos Chancery Ad Hoc, HISD SAT 2015–2016 data file, Oct. 21, 2016.
Note: ^Included in the analyses were only students who were enrolled on October 30, 2015 (i.e., PEIMS inclusion), had an average daily attendance rate greater than zero, and who had a spring 2014–2015 cumulative GPA.
*Indicates p<0.05. Grade levels with fewer than five AVID or non-AVID students were not matched their counterparts and were not included in the analyses. Algebra I and Biology data were not sufficient for analyses due to violations of the treatment overlap assumption and tests for collinearity.

Table 22. Results for estimated average AVID treatment effects on SAT scale scores for AVID students, 2015–2016

Subject	**Program Effects**	**Coefficient**	**AI Robust Standard Error**	**z**	**P> | z |**	**[95% Confidence Interval]**	
Critical Reading	**AVID**/ATET	4.545455	20.15632	0.23	0.822	-34.96022	44.05113
Writing	**AVID**/ATET	6.363636	18.71098	0.34	0.734	-30.30921	43.03648
Mathematics	**AVID**/ATET	15.00000	19.97048	0.75	0.453	-24.14142	54.14142
Total	**AVID**/ATET	25.90909	45.92275	0.56	0.573	-64.09785	115.916

Source: PEIMS 15–16; Cognos Chancery Ad Hoc, HISD SAT 2015–2016 data file, Oct. 21, 2016.
Note: *Indicates statistically significant p<0.05. Program/Treatment-effects AVID/ATET indicates the estimated average treatment effect among AVID students. Algebra I and Biology data were not sufficient for analyses due to violations of the treatment overlap assumption and tests for collinearity.