MEMORANDUM September 21, 2015

TO: Board Members

FROM: Terry B. Grier, Ed.D.
Superintendent of Schools

SUBJECT: **FUTURES ACADEMY 2014–2015**

CONTACT: Carla Stevens, 713-556-6700

The Futures Academy Program was established in 2012 to create opportunities for students to graduate from high school having earned an associate's degree or a Level 1 nationally-recognized certification in a high-demand career field. The Futures Academy program gives students the opportunity to fulfill high school graduation requirements while simultaneously earning industry certifications, college credits, and an Associate of Applied Science degree by August following their senior year. A sample of students from the Futures Academy 2014–2015 program had significantly higher academic outcomes compared to the average district academic outcomes.

Key findings include:

- The Futures Academy recruitment plan and efforts resulted in a 33 percent increase in enrollment, from 365 students in the 2013–2014 school year to 487 students in the 2014–2015 school year.
- A higher percentage of Futures Academy students met the College Board readiness standard compared to the district, 28 percent versus 21 percent, respectively. A total of 99 percent of the graduating class qualified for associate degrees or industry certificates in 2014–2015 (52 associate degrees, 29 industry certificates).
- High-risk students in Futures Academy (defined in this report as economically disadvantaged, at-risk, and non-gifted/talented) had significantly higher PSAT/NMSQT scores and grade point averages than non-Futures Academy high-risk students in HISD.

Should you have any further questions, please contact Carla Stevens in Research and Accountability at 713-556-6700.

Terry B. Grier

TBG

Attachment

cc: Superintendent's Direct Reports
Chief School Officers
Mike Love

HOUSTON INDEPENDENT SCHOOL DISTRICT

RESEARCH

Educational Program Report

FUTURES ACADEMY
2014 – 2015

HISD | Research and Accountability
ANALYZING DATA, MEASURING PERFORMANCE.

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FUTURES ACADEMY
2014–2015

Executive Summary

Program Description

The Futures Academy program provides students with the opportunity to fulfill high school graduation requirements while simultaneously earning industry certifications, college credits, and/or an Associate of Applied Science degree by August following their senior year. In addition to taking college courses, Futures Academy students must earn credits in standard English, social studies, language arts, science, and math required of all Houston Independent School District (HISD) high school students. The mission of the Futures Academy program is to produce graduates who are marketable for careers in current and developing industries in Houston, as well as prepare them to enter four-year colleges. During the 2014–2015 school year, there were eight academies in HISD, with expectations for growth and expansion in the near future. Futures Academy students have the opportunity to gain 60 college credit hours, fifteen of those hours are core courses that can be transferred to bachelor's degree programs at Texas public universities. Upon successful completion of the Futures Academy program, students will qualify for entry into high-demand jobs in several of Houston's most thriving industries, including medicine, shipping, energy, manufacturing, and computer technology.

Highlights

- Futures Academy recruitment plan and efforts resulted in a 33 percent increase in enrollment, from 365 students in the 2013–2014 school year to 487 students in the 2014–2015 school year.
- A higher percentage of Futures Academy students met the College Board readiness standard compared to the district, 28 percent to 21 percent, respectively. The students in Futures Academy performed higher than the district on the PSAT/NMSQT. The mean PSAT/NMSQT composite score for Futures Academy students in grade 10 was 123; the mean district PSAT/NMSQT composite score was 112. Similarly, the mean PSAT/NMSQT composite score for Futures Academy students in grade 11 was 128, while the HISD average was 122.
- A total of 487 students enrolled in Futures Academy during the 2014–2015 academic year. Futures Academy students' academic performance differed significantly from the population of HISD students in grades ten through twelve. Specifically, high-risk students (defined in this report as economically-disadvantaged, at-risk, and non-gifted/talented) had significantly higher PSAT/NMSQT scores and grade point averages (GPAs) than non-Futures Academy high-risk students.
- The graduating class qualified for 52 associate degrees and 29 industry certificates in 2014–2015. Results were consistent with the previous year where 100 percent of the 84 graduating seniors qualified for degrees and/or industry certificates.

Recommendations

1. The campus enrollment for Futures Academies indicates that the Kashmere and Washington have enrollments significantly below other Future Academy campuses. While there are plans for expansion, recruitment efforts at low enrollment schools should be a point of focus. A structured accountability system with intermediate feedback should be used to assess directors/principals' and recruiters' retention and recruitment efforts.
2. Futures Academy has been effective in preparing students to meet college and career readiness standards. Mean differences between Futures Academy students and HISD students suggest

that the program has been successful in preparing high-risk students to be college and career ready. To sustain their mission, Futures Academy should continue to recruit students who are marginally prepared to meet college and career readiness standards. The intensive tutoring interventions and instructor accountability structure can supports students with meeting their post-secondary education goals.

Administrative Response

The Futures Academy Department has reviewed the Futures Academy 2014–2015 program evaluation. The report describes and evaluates specific student enrollment, performance, and college and career readiness trends within the district's Futures Academy program. Additionally, we are pleased to see that Futures Academy students outperformed their non-Futures Academy peers on College Board, College and Career Readiness Benchmarks (PSAT/NMSQT), and had higher overall grade point averages. The department has begun major interventions concentrating on marketing strategies across Futures Academy programs with a goal of increasing enrollment and work-based learning opportunities for students. The department also plans to expand the number of English language arts (ELA) and math tutors that support increasing college and career readiness standards across the eight programs with the goal of increasing the number of students meeting college and career readiness benchmarks on PSAT/NMSQT, SAT, ACT, or TSI. We currently have five major business/industry partners supporting the programs and plan to increase the number of established partners to all programs by the end of the 2015–2016 school year. We are pleased to see that the Futures Academy program is increasing college and career opportunities to students throughout the Houston region and plan to increase these opportunities during the 2015–2016 academic year.

Introduction

The Futures Academy Program was established in 2012 to create opportunities for students to graduate from high school having earned an associate's degree or a Level 1 nationally-recognized certification in a high-demand career field. The Futures Academy program gives students the opportunity to fulfill high school graduation requirements while simultaneously earning industry certifications, college credits, and an Associate of Applied Science degree by August following their senior year. Futures Academy students have the opportunity to gain 60 college credit hours, 15 of those hours are core courses that are transferable to bachelor's degree programs at Texas public universities. Futures Academy included eight sites for the 2014–2015 academic year. Six academies were located on shared high-school campuses where there were both Futures Academy students and non-Futures Academy students (Furr, Kashmere, Scarborough, Sterling, Washington, and Westside). Two high school academies were independent/wall-to-wall campuses that only enrolled Futures Academy students (Jones and Long).

The program objectives of Futures Academy are to prepare students during their first two years of high school to be equipped with the learning skills to successfully complete their junior and senior years while earning a degree and/or industry certification. The method to accomplish these goals is through an intense tutorial program coupled with scheduling most of their high school course work during the students' first and second year of high school. The Futures Academy model includes intensive training and tutorials for foundational skills during students' freshman and sophomore years. Students focus on workforce classes during their junior and senior year of high school. The program offers rigorous course work and academic tracks that are facilitated through a collaboration with Houston Community College (HCC). Through college prep courses, career preparation, and the ability to graduate with a minimum of 15 transferable credit hours, students' become equipped to be highly competitive in their chosen field. Specifically the fields of medicine, shipping, energy, manufacturing, and computer technology are currently available programs. Students enrolled in Futures Academy are eligible to take college credit courses beginning the summer after their sophomore year. This program differs from most dual enrollment/early college high schools that enroll students in college courses over a four-year span. The majority of the classes offered are workforce classes, which typically require 96 contact hours for completion, as compared to general associates level classes that require a standard 48 hours. The short time-frame that students have to complete their associate degrees or Level I certifications contribute to the rigorous Futures Academy program model.

This report is designed to provide a baseline description of the program and highlight the results of some changes that were made based on recommendations from an external evaluation in 2013 (Zavadsky, 2013). Specifically, this report will address questions regarding the demographic characteristics and academic performance as well as provide district comparisons. The following are descriptions of the eight Futures Academy Programs.

Academy of Petroleum Engineering Technology at Furr High School

Petroleum Engineering Technology is a program designed to prepare individuals to work as Petroleum Engineering Technicians. The petroleum industry requires highly skilled individuals for multiple field and office positions. This challenging program is designed to train engineering technicians in all areas of the downstream and midstream petroleum industry. Students in the Petroleum Engineering Technology program will complete core coursework in areas that include but are not limited to hydrocarbon safety, drilling, geology, oil exploration and production, and reservoir. In conjunction with these courses, the students will employ the latest computer software and will take interdisciplinary courses giving an overall view of the oil business.

Academy of Allied Health & Construction Technology at Jones

The Academy of Allied Health and Construction Technology prepares students for real-world career opportunities. This program is specifically tailored to meet the current and future needs of Houston's thriving health and construction technology (HVAC and Electrician) industries. Benefits of this program include courses taught by college professors utilizing a blend of face-to-face and online instruction, engaging project-based assignments, technology-rich college atmosphere, industry mentors, and internships.

Academy of Process Technology at Kashmere High School

The Academy of Process Technology teaches students to control chemical processes by monitoring, troubleshooting and adjusting the electronic and mechanical instruments and machines that make the products involved. Students learn how to ensure the safety and health of people and the environment in all areas of plant activities. Process Technicians are responsible for equipment start-up and shut-down, identifying problems and getting repairs made. Technicians use advanced computer technology and evaluate data to ensure effective, safe processes. Areas of employment include petrochemicals and refining, food and beverage processing, pharmaceuticals, biomanufacturing, oil and gas industry, power generation, water management, and agricultural manufacturing.

Academy of Pharmacy Technology at Jane Long

The Academy of Pharmacy Technology prepares students for the growing pharmaceutical industry by providing them with the clinical and business skills needed to work successfully alongside pharmacists and physicians. Pharmacy Technicians play a very critical role in pharmacies and healthcare organizations by handling prescriptions and medication orders and by providing assistance to licensed pharmacists. They assist licensed pharmacists by providing patients with medications and healthcare products. Students may pursue rewarding careers in a variety of settings, including hospitals, retail pharmacies, nursing homes, pharmaceutical companies and wholesalers, and the federal government.

Academy of Network Computer Administration at Scarborough High School

The Academy of Network and Computer Administration prepares students for career opportunities that design, install, and support computer networks. Students learn to install and configure workstations, servers, internet devices and network operating systems. They will walk away understanding the fundamentals of networking theory and security. Network and computer administrators may work in a variety of environments, including large corporations, small businesses, and government organizations. They install and maintain network hardware and software, analyze problems, and monitor networks to ensure their availability to users.

Academy of Logistics & Global Supply at Sterling High School

The Academy of Logistics and Global Supply trains students in the process of planning, implementing and controlling the efficient, cost effective flow and storage of raw materials, in-process inventory, finished goods and related information from point of origin to point of consumption for the purpose of conforming to customer requirements. Students with this knowledge may pursue a career in areas such as exporting/importing, materials handling, global transportation, warehouse and distribution center management, purchasing management and traffic management, and in places such as airports, ports and retail organizations.

Academy of Manufacturing & Engineering Technology at Washington High School

The Academy of Manufacturing Engineering Technology prepares students for real world manufacturing techniques including computer methods, and mechanical, electronic, hydraulic, and pneumatic systems. Students learn about safety, how to decode blueprints and manufacturing equipment use, and fabrication. Manufacturing engineers use complex systems, high-tech equipment, robots, and machines to convert a few pennies worth of raw materials into finished products worth hundreds of times that. It is designed to develop competent technicians for employment in the field of manufacturing engineering and related occupations.

Academy of Health Sciences at Westside High School

The Academy of Health Sciences prepares students for various health related careers and provides students with an opportunity to complete all prerequisites required to earn an Associate of Science in Biology. This will allow students to enter directly into a bachelor's program, only needing to complete the advanced courses related to their area of study. The partnership with University of Texas MD Anderson School of Health Professions exposes students to program-related experiences and to a real world sense of the industry they could potentially enter upon completion of a bachelor's program. The Academy of Health Sciences at Westside provides two tracks for students that lead to health related careers: Track one leads students into Clinical Lab Science, Cytogenetic Technology, Cytotechnology, Histotechnology, or Molecular Genetic Technology. Track two leads students into Diagnostic Imaging, Diagnostic Medical Sonography, Medical Dosimetry, or Radiation Therapy.

Literature Review

One of the most important purposes of PK–12 education is to prepare students for post-secondary success, also known as college and career readiness. Conley (2013) define college and career readiness as, "[Students who] can qualify for and succeed in entry-level, credit-bearing college courses leading to a baccalaureate or certificate, or career pathway-oriented training programs without the need for remedial or developmental coursework" (p. 51).

According to the U.S. Bureau of Labor and Statistics (2012), the importance of obtaining a secondary degree will increase as jobs requiring post-secondary degrees increase. Entry level jobs requiring at least a post-secondary degree are increasing at faster rates than entry level jobs accepting a high school diploma or less. Specifically, it was predicted that of the 30 fastest growing occupations from 2012 to 2022, 19 will require postsecondary education. College and career readiness initiatives are taking place in school districts across the United States. These initiatives include advanced placement (AP) incentive programs, career and technical education (CTE) programs, dual enrollment programs, early college high schools, and career academies.

The literature on career academies suggests that these are effective models for promoting college and career readiness. Stern, Dayton, and Raby (2010) ask "Should all high school students be ready for college when they graduate? Or should some students focus on college preparation, while others prepare mainly for work after high school? These alternatives have been debated in the U.S. for more than a hundred years. Career academies steer a middle way through this debate, by offering to prepare students for both college and careers" (p.21). Implementing career academies is a common approach for high school reform. In a review by Brand (2009), she discusses several evaluations that have examined career academies and shown positive effects. Noted outcomes include attendance, earned credits, grade point averages, graduation rates, college attendance rates, and labor market outcomes. Brand (2009) suggest that academies are a beneficial method of educational reform. Students who participate in high school dual enrollment programs also tend to have higher GPA and retention rates than traditional students, as noted in a study on Texas schools by Peng (2003). While it is beneficial for students to earn certifications that make them marketable following graduation, The National Career Academy Coalition (2003) advises that there must be a strong academic component in order to produce notable student academic outcomes. Therefore, the National Standards of Practice for Career Academies were developed in 2004 and revised in 2013 to support successful implementation of the career academy model (see **Appendix A**).

Methods

To address questions regarding the demographic characteristics and academic performance as well as provide district comparisons the following data were utilized.

Data Collection and Analysis

- Futures Academy student enrollment data and Texas Success Initiative (TSI) results were obtained from the Futures Academy program personnel.
- Descriptive data, including student demographic characteristics, were obtained from the fall 2014 Public Education Information Management System (PEIMS). Although Futures Academy wall-to-wall schools serve ninth grade students, they are not officially Futures Academy students of record until

their sophomore year. This report includes data representing HISD students in grades ten through twelve.

- High school students' grade point averages as of spring 2015 were queried from IBM Cognos database (Chancery Ad Hoc package).
- PSAT/NMSQT scores were obtained from the College Board files for tests administered during the fall of 2014. The College Board college and career readiness (CCR) benchmarks are used to predict whether students will be able to attain a first-year college grade point average of 2.67 or higher. College Board considers composite scores of 133 (10th grade) and 142 (11th grade) have been found to be good predictors of college and career readiness.
- Test performance data for HISD include Futures Academy students.

Limitations

- No qualitative data were collected for this evaluation, limiting the ability to assess the concerns and suggested improvements from students and stakeholders perspectives.

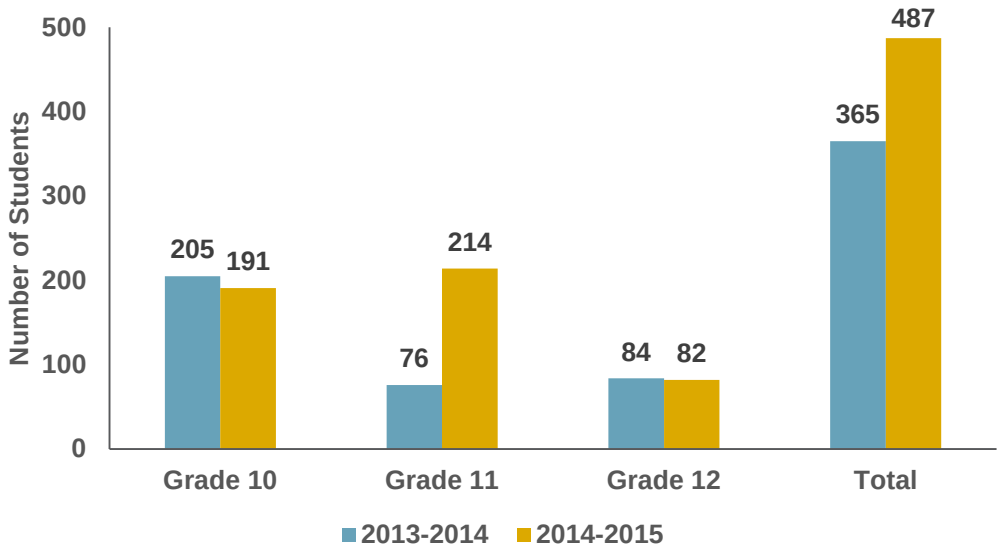
Results

How many HISD students were enrolled in Futures Academy during the 2014–2015 academic year?

- Futures Academy increased recruitment efforts, per recommendations from the administrative office of Special Projects and an external 2013 evaluation by Dr. Heather Zavadsky of Gulf Coast Partners Achieving Student Success (GO PASS). Futures Academy was encouraged to use a systematic approach to implementing programs. They continued fostering relationships with Houston Community College (HCC) and other institutional collaborators, monitoring instruction provided by HCC, and providing intense tutoring to students in preparation for college and career readiness exams. Additionally, to address recruitment and retention, Futures Academy revamped their web-based presence, participated in community events, and established a presence at district-related fairs and informative exhibits (**Appendix B**).

- There was an increase in the total enrollment of Futures Academy students from the 2013–2014 academic year to the 2014–2015 academic year (**Figure 1**). The total number of students increased by 33 percent, with the largest increase of students seen in grade 11, where an additional 138 students enrolled in 2014–2015 compared to 2013–2014. There was a small decrease of two students enrolled at grade 12.

Figure 1: Enrollment of Futures Academy students, 2014–2015

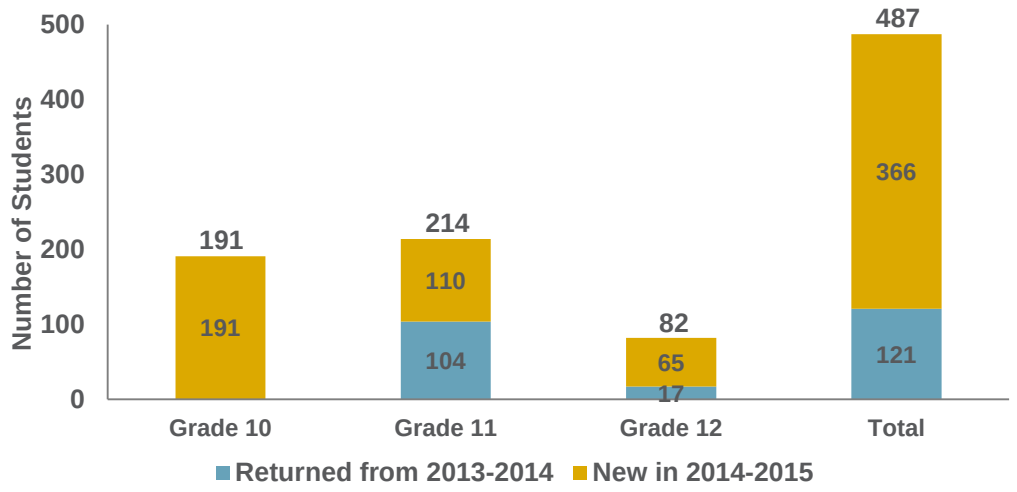


Source: Futures Academy enrollment records, 2014–2015

- During the 2014–2015 academic year, Futures Academy had a total enrollment of 487 students in grades 10 through 12. **Figure 2** shows that 366 or 75 percent of the students were new to the program. Twenty-five percent of the enrolled students returned from the previous year.

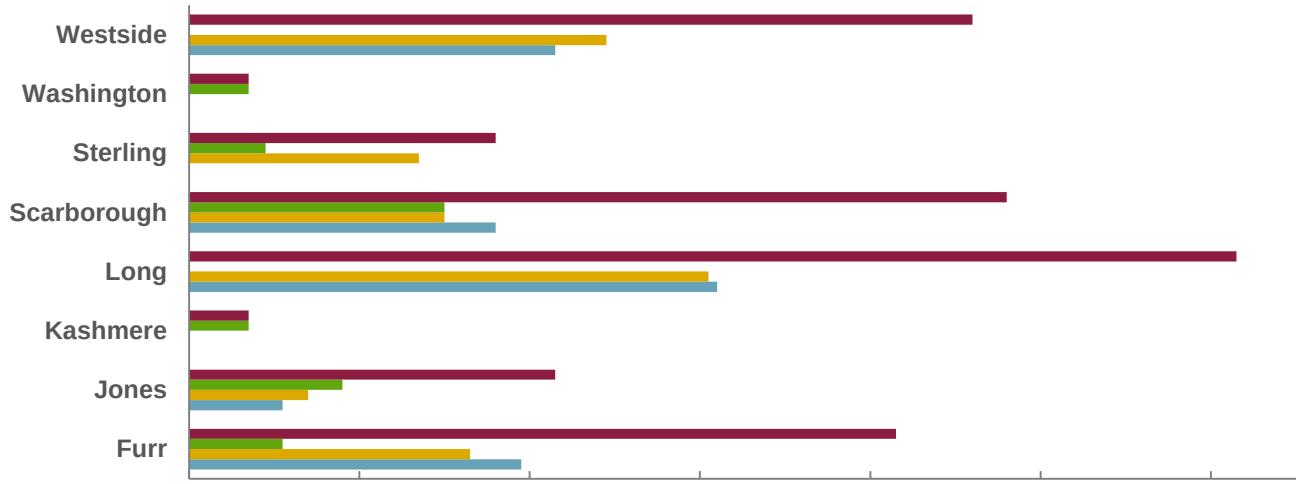
- Grade 11 was comprised of 51 percent newly-enrolled students, while 79 percent of grade 12 students were new to Futures Academy. This may be attributed to students moving out of the district, students not continuing to meet academic and behavioral standards, and recruitment efforts for new students (Futures Academy administration, 2015).

Figure 2: Number of students returning to the Futures Academy program, 2014–2015



- **Figure 3** presents the number of students enrolled in each of the eight Futures Academy programs by campus.

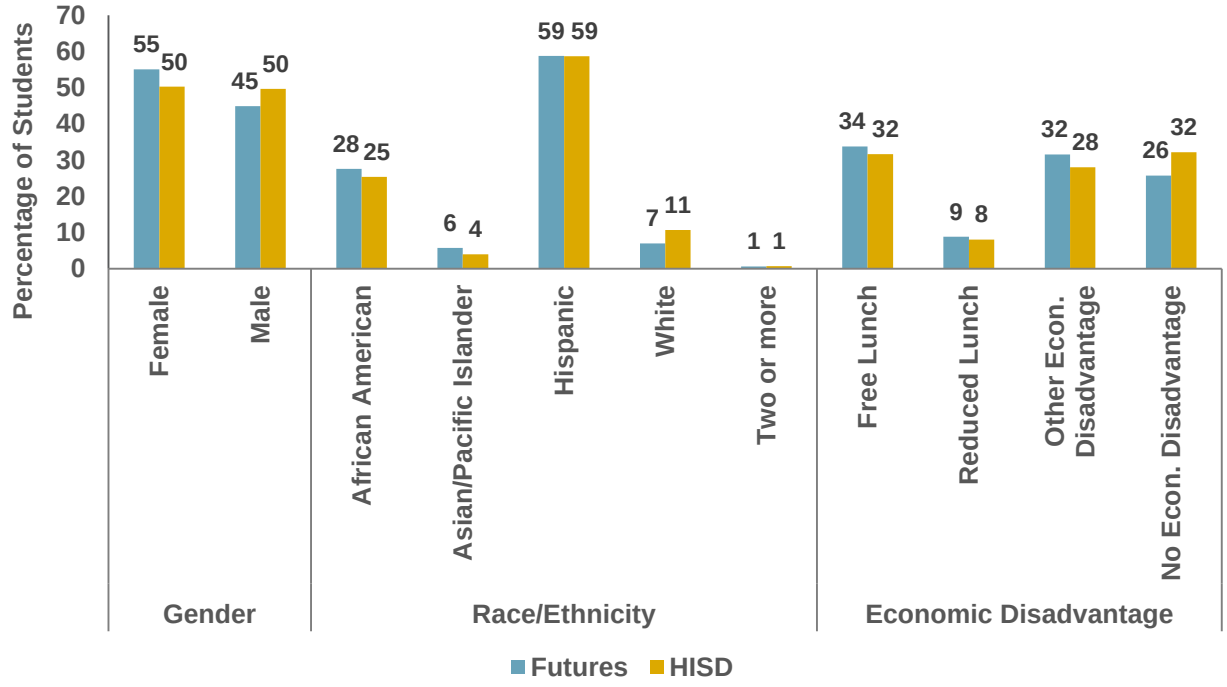
Figure 3: Campus enrollment of Futures Academy students by grade level, 2014–2015



	Furr	Jones	Kashmere	Long	Scarborough	Sterling	Washington	Westside
Total	83	43	7	123	96	36	7	92
Grade 12	11	18	7	0	30	9	7	0
Grade 11	33	14	0	61	30	27	0	49
Grade 10	39	11	0	62	36	0	0	43

- As seen in Figure 3, Long Academy, a Future's wall-to-wall campus, had the highest number of students enrolled, followed by Scarborough High School and Westside High School. Washington and Kashmere high schools had the lowest enrollment among all Future Academy programs. Enrollment by grade level can be found in Appendix C, **Table 1**.

Figure 4: Percentage of Futures Academy students and HISD 10th–12th grade students by gender, race/ethnicity, and economic disadvantage status, 2014–2015



Note: Percentages may not total 100 due to rounding.
Source: PEIMS, 2014

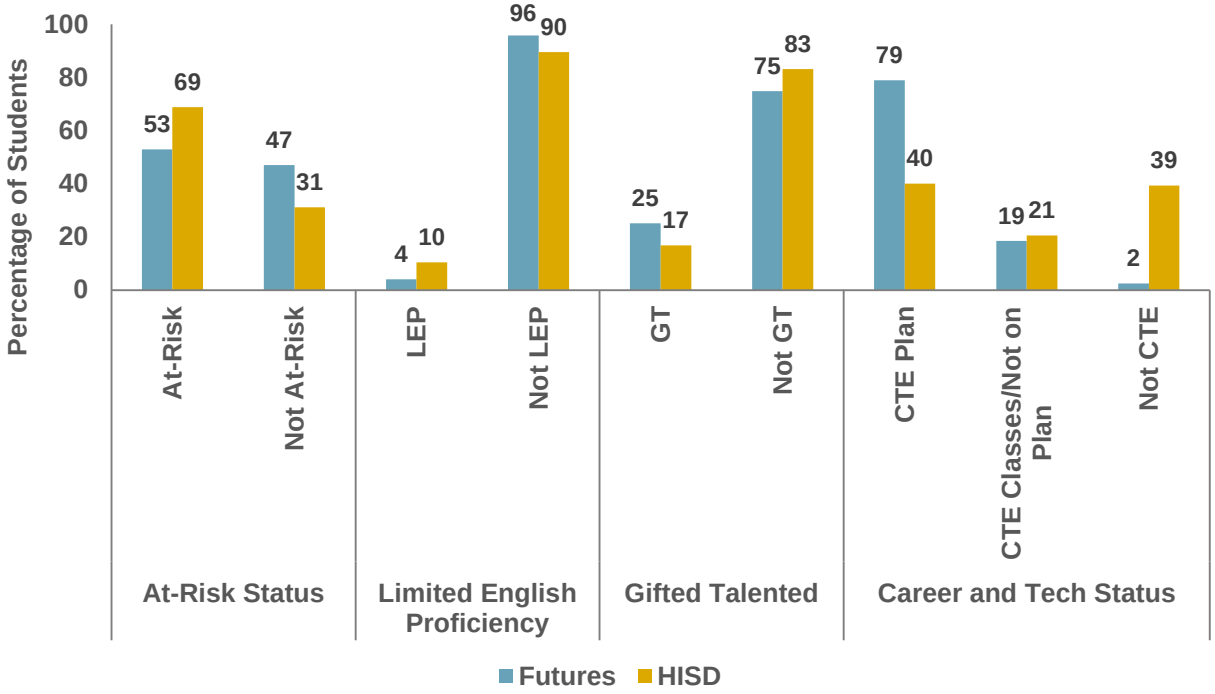
What were the demographic characteristics of students who participated in the Futures Academy Program?

- **Figure 4** represents the demographic data of Futures Academy. A higher percentage of females compared to males were enrolled in the Futures Academy program (Figure 4 detailed in Appendix C, **Table 2**). This differs from the 50:50 district male to female distribution of tenth through twelfth grade students.

- In relation to the districts' race/ethnicity distribution, Futures Academy had slightly higher enrollments of African American students (28 percent compared to 25 percent in the district) and Asian/ Pacific Islanders (6 percent compared to 4 percent in the district). Conversely, White students' enrollment in Futures Academy was lower than the district's (7 percent compared to 11 percent in the district). The percentage of Hispanic students in the Futures Academy Program was equivalent to their representation in HISD (59 percent).

- Futures Academy has a higher enrollment of economically-disadvantaged students. Seventy-five percent of Futures Academy students were economically-disadvantaged compared to 68 percent of the district's students in grades 10 through 12.

Figure 5: Percentage of Futures Academy students and all HISD 10th–12th grade students by at risk status, limited English proficiency, G/T, and CTE, 2014–2015



Note: Percentages may not total 100 due to rounding.
Source: PEIMS, 2014

- While the majority of Futures Academy students are identified as at-risk (53 percent), this was lower than the percentage of at-risk students at the district level (69 percent). The percentage of limited English proficient (LEP) Futures Academy students was lower than the district total by six percentage points. The Futures Academy program had a higher percentage of gifted/talented (G/T) students (25 percent) than the district (17 percent).

- The majority of Futures Academy courses are classified as CTE due to the nature of the program. Seventy-nine percent of the Futures Academy students were identified as being on a CTE Plan compared to 40 percent in the district. The CTE Plan designation is assigned to high school students who are enrolled in a coherent sequence of CTE courses. That is, students must be enrolled in a sequential course of study and must have a 4-year plan of study to take at least two CTE courses that qualify for three or more credits.

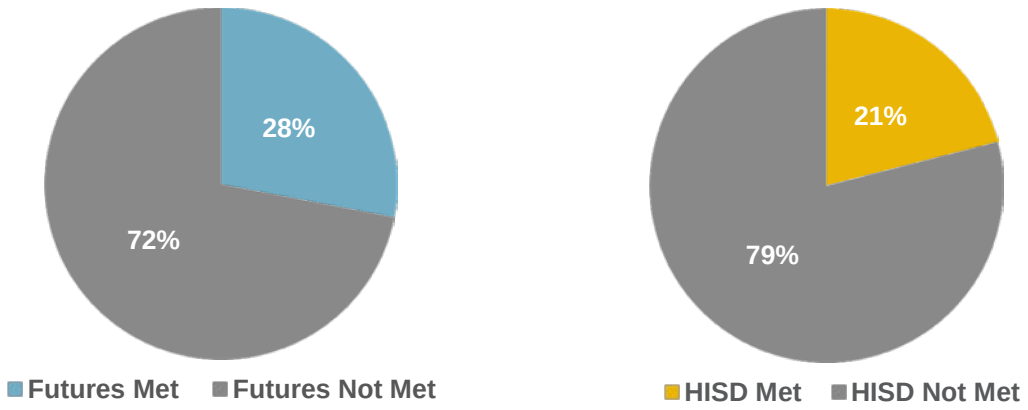
How did Futures Academy students compare in academic performance with other HISD students?

- **Figure 6** represents the percentage of students in Futures Academy and HISD who met the College Board college and career readiness benchmark. Twenty-eight percent of the Futures Academy students in grades 10 and 11 who took the PSAT/NMSQT met the College Board's college

and career readiness benchmark. This was seven percentage points higher than the percentage of students who met the benchmark standard in HISD (21 percent).

- Specifically, 26 percent of grade 10 Futures Academy students met the College Board's college and career readiness benchmark (133 scale score), while 20 percent of HISD grade 10 students achieved this standard. Futures Academy students in grade 11 (29 percent) also had a higher percentage of students who met the college and career readiness benchmark standard (142 scale score) than HISD (23 percent) (Appendix C, **Table 3**)

Figure 6: Percent of Futures Academy and HISD students Grades 10–11 who met College Board college and career readiness benchmark on PSAT/NMSQT, 2014



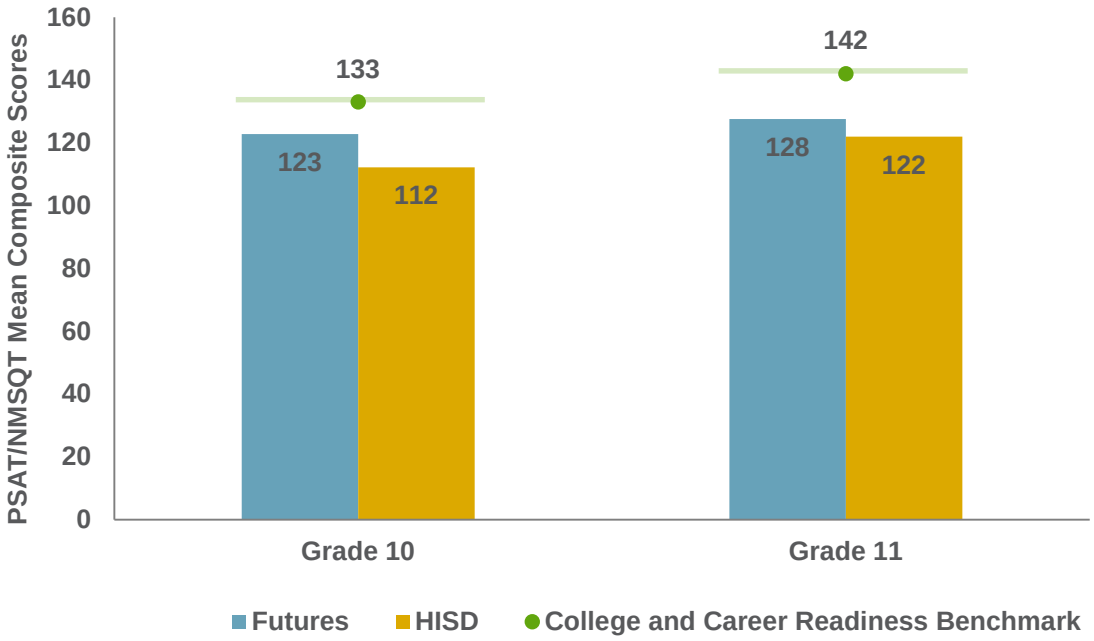
Source: College Board PSAT/NMSQT files, 2014

- **Figure 7** displays the average PSAT/NMSQT composite scores for Futures Academy and HISD students. The average composite score for Futures Academy students in grade 10 was 10 scale score points from the benchmark standard. HISD grade 10 students were 21 points lower than the benchmark standard. Futures Academy students in grade 11 were 14 points lower than the benchmark standard, compared to HISD which was 20 points below the benchmark standard.

- Results on the critical reading subtest show that Futures Academy students in grade 10 were within two scale score points of achieving the benchmark standard of 42, compared to five points for the district **(Figure 8)**. Futures Academy students in grade 11 were within three points of meeting the critical reading benchmark standard (45), compared to the HISD critical reading average, which was five points lower than the benchmark standard.

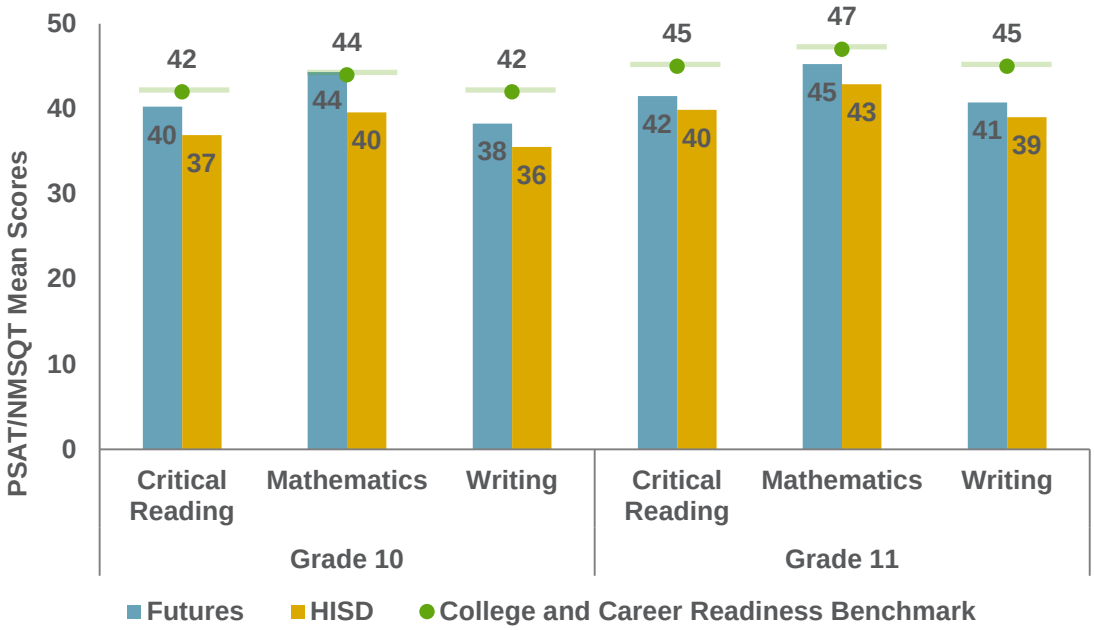
- Futures Academy students typically met the College Board college and career readiness benchmark standard in grade 10 on the math PSAT/NMSQT subtest (44), while the district average was four points below the benchmark standard. The average math PSAT/NMSQT score for grade 11 Futures Academy students was two points below the benchmark standard of 47, while the district average was four points below the benchmark standard.

Figure 7: Mean composite PSAT/NMSQT score for Futures Academy students and all HISD 10th and 11th grade students, 2014



Source: College Board PSAT/NMSQT files

Figure 8: Mean PSAT/NMSQT score for Futures Academy students and all HISD student by grade level and subject, fall 2014

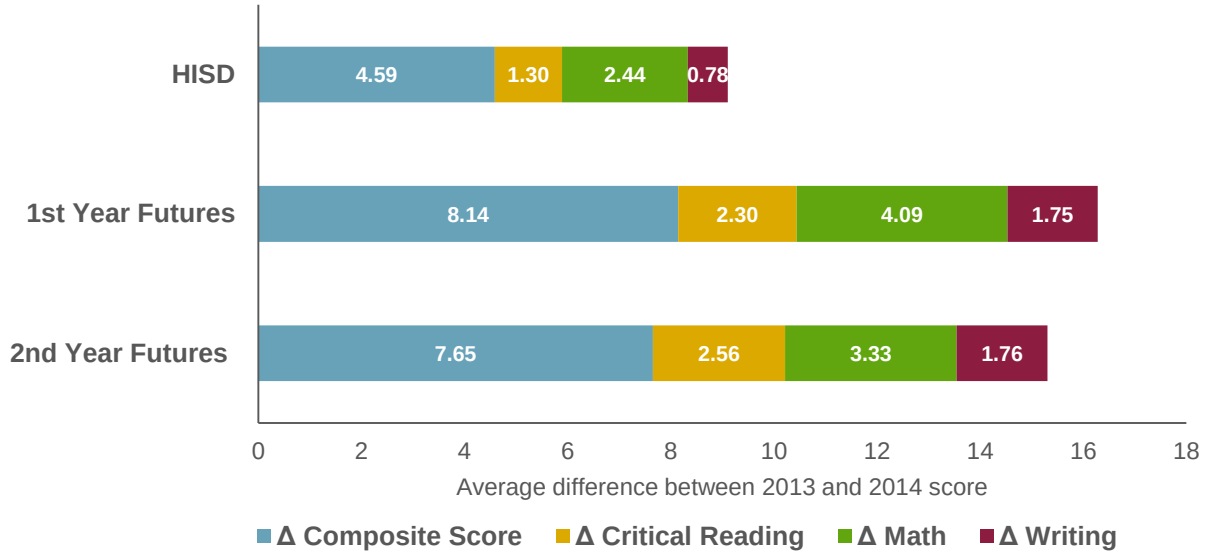


Source: College Board PSAT/NMSQT files, 2014

- Both Futures Academy students and the district performance were below the college and career readiness benchmark in grade 10 writing (42). Futures Academy students had an average writing score of 38, while the district's average was 36 (Figure 8). Futures Academy students in grade 11 scored two points higher than the district average (41 for Futures Academy compared to 39 for the district). Both groups were below the 45 scale score college and career readiness benchmark standard.

- Independent sample *t*-tests were performed to compare the mean PSAT/NMSQT scores of students in the Futures Academy program to the mean PSAT/NMSQT scores of HISD students. **Table 5** examines mean differences of all students regardless of demographic characteristics, while **Table 6** shows results for PSAT/NMSQT differences of high-risk students (defined in this report as economically-disadvantaged, at-risk, and non-gifted/talented). There was a significant difference between Futures Academy high-risk students' scores and HISD high-risk students' scores. Findings suggest that Futures Academy high-risk students were better prepared to meet college and career readiness standards than other HISD students.

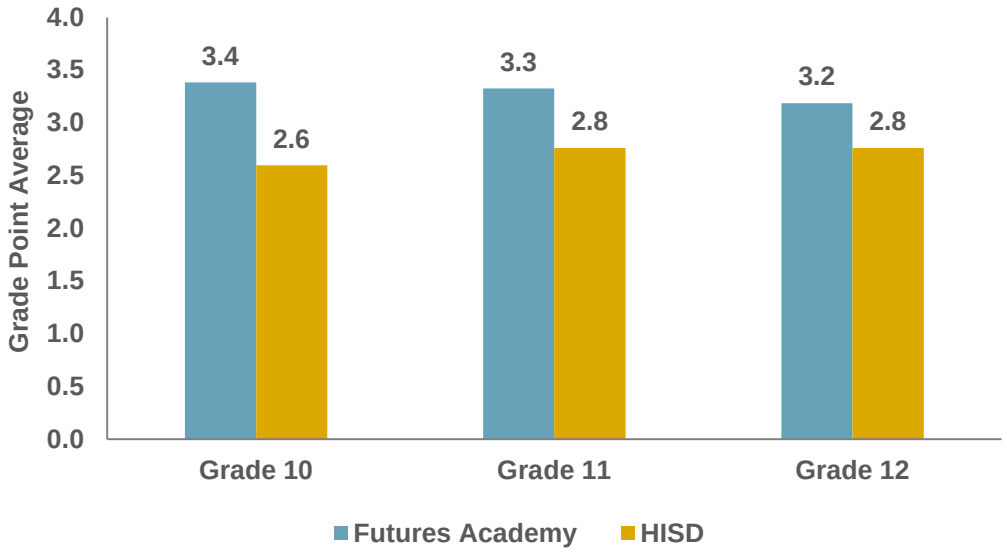
Figure 9: Average PSAT/NMSQT growth, 2013 PSAT/NMSQT scores compared to 2014 PSAT/NMSQT scores



- **Figure 9** shows the average growth of students on the PSAT/NMSQT between 2013 and 2014. Students who were newly-enrolled in the Futures Academy had higher average growth on their PSAT/NMSQT scores than students who were returning to the program and all students in HISD. These results are further explained in the discussion section of this report.

- Students enrolled in the 2014–2015 Futures Academy program typically achieved higher in all grades compared to the district average GPA (**Figure 10** and Appendix C, Table 3). The largest difference was seen in Futures Academy students in grade 10, who were 0.8 points higher than the HISD grade 10 average. Grade 12 students showed the smallest difference between Futures Academy GPAs and HISD GPAs (0.4).

Figure 10: Grade point averages for Futures Academy students and all HISD 10th–12th grade students by grade level, 2014–2015



- Independent sample *t*-tests were performed to compare the mean GPAs of students in the Futures Academy program to the mean GPAs of HISD students. **Table 7** examines mean differences of all students regardless of demographic characteristics, while **Table 8** shows results for GPA differences of high-risk (economically-disadvantaged, at-risk, and non-gifted/talented) students. There was a significant difference between Futures Academy high-risk students' GPAs and HISD high-risk students' GPAs.

What was the performance of students in the Futures Academy Program on the Texas Success Initiative (TSI)?

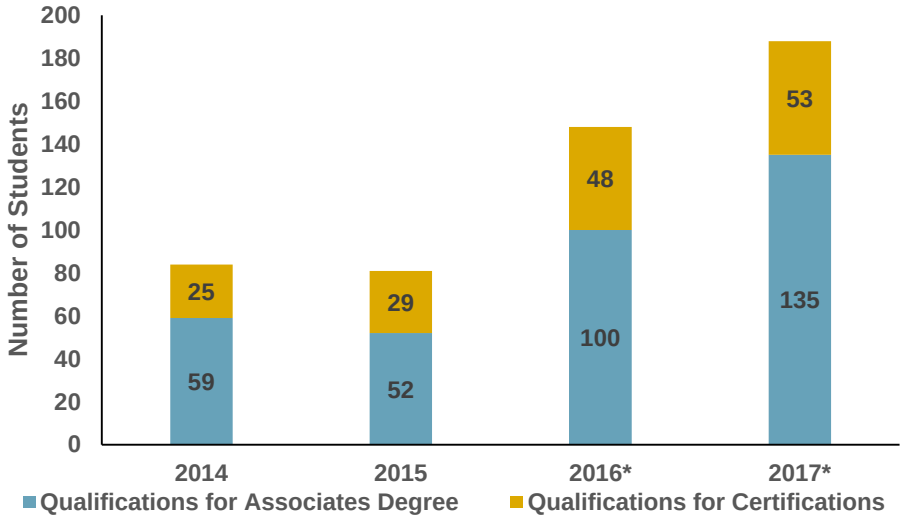
- Texas Success Initiative (TSI) evaluates students' readiness to begin college level courses in Texas. Students who wish to take courses counted toward college credit hours must meet the TSI readiness standard. If students are college ready they may enroll in college classes without having to enroll in developmental classes or interventions. In addition, high school students who wish to take college courses are eligible to receive a TSI assessment waiver by scoring at least 107 on their PSAT/NMSQT (with a minimum of 50 on Critical Reading and 50 on Math subtests).

- While the PSAT/NMSQT is a measure that can be used to predict a student's expected success and GPA in college, it is typically a more stringent TSI indicator. The Compass exam; however, is a test specifically designed to assess Texas students on their readiness to take college level course without requiring remedial courses.

- One hundred fifty (71 percent) of the 212 eleventh grade Futures Academy students who took the TSI exam met the college and career readiness benchmark by the end of the 2014–2015 school year (data provided by Futures Academy).

How many students graduated with qualifications for an associate degree or industry certificate?

Figure 11: Number of students graduating with qualifications to apply for an associate degree and/or industry level certificate



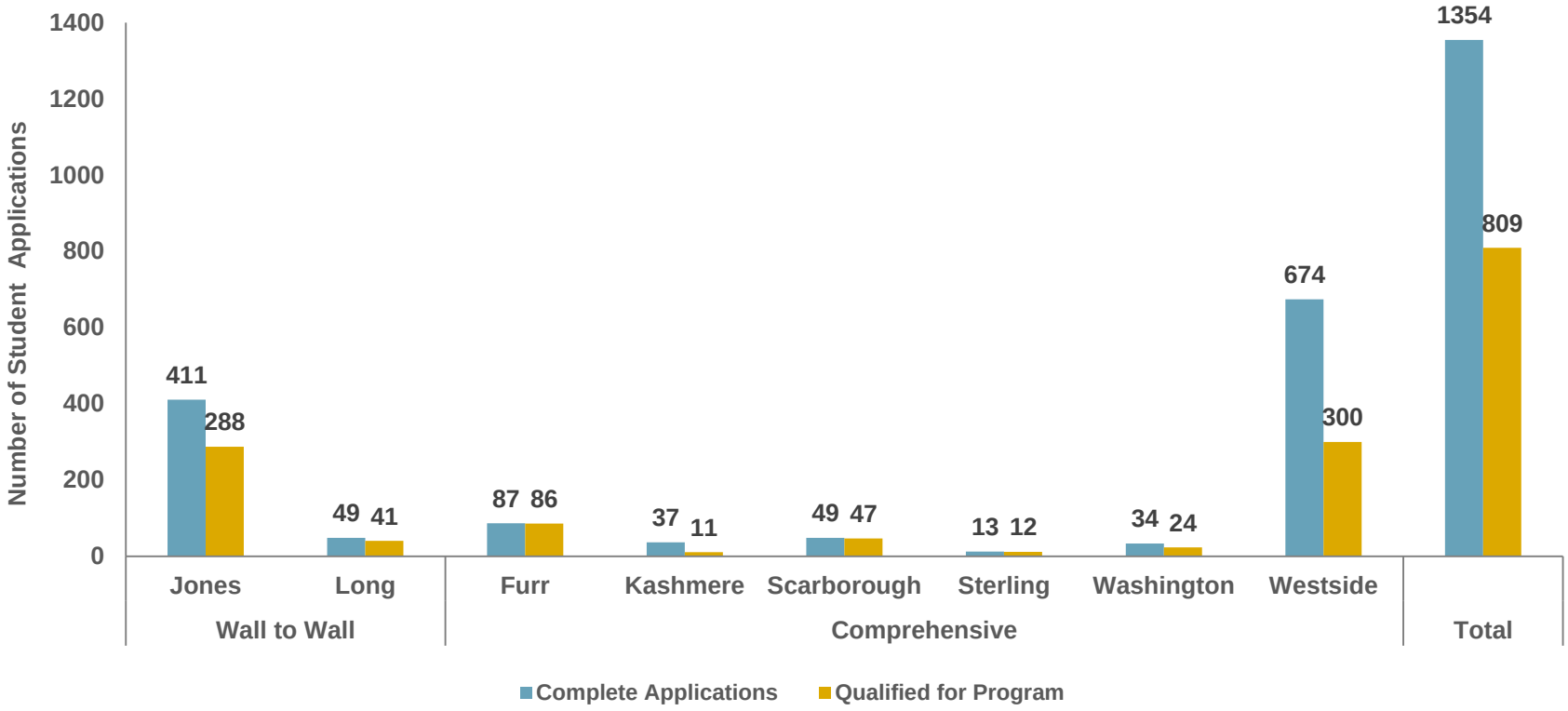
*Predicted counts from Futures Academy administration included for 2016 and 2017
Source: Futures Academy Department

- In 2014, Futures Academy graduated 84 students, 100 percent qualified for an associate degree or industry certificate. A total of 59 students met qualifications for an associate degree and 25 for an industry certificate **(Figure 11)**. Similarly, in 2015, 99 percent (81 out of 82) of the students qualified for an associate degree and/or industry certificate.

How many applications were submitted and accepted for the 2015–2016 Futures Academy program?

- **Figure 12** shows a comparison of submitted and qualified applications for Futures Academy programs. A total of 1,354 HISD students submitted complete program applications for admissions to Futures Academy, with a total of 809 meeting qualifications. The Academy of Health Sciences at Westside, a new location in 2014–2015, had the highest number of student applicants seeking admittance for the 2015–2016 school year (674 submitted, 300 qualified). The Academy of Allied Health Construction Technology at Jones, a wall-to-wall academy, followed with 411 submitted applications and 288 students qualifying for admission to the academy. The academies at Kashmere and Sterling had the lowest number of qualifying applicants (see Appendix C, **Table 4**).

Figure 12: Futures Academy student applications for enrollment in the 2015–2016 academic year



Note: Applications received as of June 8, 2015
Source: Futures Academy program personnel

Discussion

This report examined the Futures Academy program during the 2014–2015 academic year, assessing baseline descriptive data as well as district performance comparisons. Findings indicated that the Futures Academy program enrolled students with slightly different demographic characteristics than HISD. There were greater percentages of African-American students and students who were economically-disadvantaged in Futures Academy. The program also had a greater percentage of G/T students and a lower percentage of LEP students than the district in 2014–2015.

Students in the Futures Academy program had higher overall performance rates than HISD students. Futures Academy PSAT/NMSQT composite scores were significantly different than HISD PSAT/NMSQT composite scores. Further, results also indicate that Futures Academy high-risk students (economic disadvantaged, at-risk, non-G/T designations) performed better than high-risk HISD students. Specifically, Futures Academy students who were economically-disadvantaged and/or identified as at-risk performed higher than students who were identified with the same criteria for HISD.

The data used for student growth comparisons on the PSAT/NMSQT captured the usefulness of interventions being provided by Futures Academy. PSAT/NMSQT composite scores for students who took the test in both October 2013 (pre-test data) and October 2014 (post-test data) were used in the analysis. First year Futures Academy students had only been in the program for approximately two months before taking the PSAT/NMSQT post-test. Second-year students were students who had received a full year of the program (i.e. intensive tutorial, rigorous curriculum) before taking the PSAT/NMSQT post-test. When comparing cohorts, it is important to consider that students who were new to Futures Academy were recruited and accepted under more rigid standards in year two. These students were more academically prepared entering the program than the students in year one. Results indicate that students who were new to the program had slightly higher composite scores (made up of the reading, writing, and math subtests), which is attributable to their math scores. Returning Futures Academy students had slightly higher gains in their reading scores, which could indicate that there were interventions specifically focused on targeting these skills. This indicates that the program was successful in providing interventions to lower performing students who were recruited under the initial program standards.

Futures Academy has been effective in identifying and preparing students to meet college and career readiness standards. The mission of the Futures Academy program is to produce graduates who are marketable for careers in the current and developing industries in Houston as well as prepare them to enter four-year colleges. To sustain this goal, Futures Academy should continue recruiting students who are marginally prepared to pursue post-secondary education. The intensive tutoring interventions and instructor accountability will help achieve this goal.

The campus enrollment for Futures Academies indicates that the Kashmere and Washington have enrollments significantly below other Future Academy campuses. While there are plans for expansion, recruitment efforts at low enrollment schools should be a point of focus. A structured accountability system with intermediate feedback should be used to assess directors/principals' and recruiters' retention and recruitment efforts.

Additional data, including qualitative data, are encouraged in future evaluations. This information will be able to illustrate the relationships and quality of instructors at Houston Community College. Feedback from students can also show areas that are benefiting students and encouraging success, as well as provide indicators where improvements to increase student success can be focused.

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APPENDIX A

National Standards of Practice for Career Academies

1. **Defined Mission and Goals:** The career academy has a written definition of its mission and goals. These are available to the administrators, teachers, students, parents, advisory board and others involved in the academy. Criteria include: A well-defined mission and goals, focusing on careers and college, raising student aspirations and increasing student achievement.

2. **Academy Structure:** An academy needs to have a well-defined structure within the high school, reflecting its status as a small learning community. Criteria include: cross-age articulation, a student recruitment and selection process, cohort scheduling, physical space for the career academy, a career or industry theme and a small size supportive atmosphere.

3. **Host District and High School:** Career academies exist in a variety of district and high school contexts which are important determinants of an academy's success. Criteria include: support from the Board of Education and the superintendent, support from the principal and high school administration, adequate funding, facilities, equipment and materials.

4. **Faculty and Staff:** Appropriate teacher selection, leadership, credentialing and cooperation are critical to an academy's success. Criteria include: a leader (teacher leader, team leader, coordinator, directors, etc.), teachers who are credentialed in their field and committed to the mission and goals and counselors and non-academy teachers who are supportive.

5. **Professional Development:** Since an academy places teachers and other adults into roles not normally included in their previous training, providing adequate professional development time, leadership and support is important. Criteria include: common planning time for academy staff, professional development for teachers and an orientation for parents and other district employees.

6. **Governance Leadership:** The academy has a governing structure that incorporates the views of all stakeholders. Criteria include: an advisory board with broad representation from all aspects of the industry as well as all stakeholders, regular advisory meetings, evidence of a healthy partnership between the school and the community and an opportunity for student input.

7. **Curriculum Instruction:** The curriculum and instruction within an academy meets or exceeds external standards and college entrance requirements, while differing from a regular high school by focusing learning around a theme. Criteria include: a curriculum framed around state or national standards that is sequenced, integrated and relevant, rigorous learning meeting college entrance requirements, dual credit and articulation options and post-graduate planning.

8. **Employer, Higher Education Community Involvement:** A career academy links high school to its host community and involves members of the employer, higher education and civic community. Criteria include: a career theme that fits the local economy, community involvement, work based learning, experiential components such as shadowing, mentoring, guest speakers and the incorporation of citizenship.

9. **Student Assessment:** Improvements in student performance are central to an academy's mission. It is important to gather data that reflects whether students are showing improvement and to report these accurately and fairly to maintain the academy's integrity. Criteria include: the collection of student data, multiple measurements which include items such as student attendance, retention, credits, grade point averages, state test scores, graduation rates and college going rates, accurate reporting, the assessment of technical learning and skills and the evidence of the impact of the academy on student performance.

10. **Cycle of Improvement:** No academies function perfectly all the time. Ensuring that an academy remains high quality requires engaging in a regular, well-defined, objective self-examination. Criteria include: the examination of an academy's mission, design and implementation, planned refinements for the academy which include timetables and measurable outcomes.

APPENDIX B

Recruitment and Retention Strategies, 2014–2015*

Recruitment

- Each Futures Academy campus coordinator participated in the School Choice middle school recruitment events held during the fall semester.
- Futures Academy campus coordinators provided campus tours during the district school choice awareness tour dates.
- Futures Academy campuses participated in community events such as Families Empowered, church social events, etc.
- Futures Academy campuses participated in the CTE When I Grow Up Expo.

Retention

- Futures Academy students participated in field experiences to companies such as Coca Cola Distribution Center, Sysco Distribution Center, National Oilwell Varco, Walgreens, and UT MD Anderson.
- Futures Academy students were visited by guest speakers that work in the career fields of the Futures programs.
- Futures Academy students were provided with guidance activities to increase success in college courses.
- Rising 10th grade students participated in a summer bridge program to prepare for their upcoming courses.
- Tutors were provided for students to ensure success in college courses.

*Provided by Futures Academy Staff/Administration

APPENDIX C

Descriptive Data

Table 1: Campus enrollment of Futures Academy students by grade level, 2014–2015

Futures Academies	Grade 10		Grade 11		Grade 12		Total (2014–2015)	Total as of Sep. 3, 2015
	N	%	N	%	N	%	N	N
Academy of Petroleum Engineering Technology at Furr	39	47	33	40	11	13	83	133
Academy of Allied health Construction Technology at Jones	11	26	14	33	18	42	43	267
Academy of Process Technology Kashmere H. S.	0	0	0	0	7	100	7	45
Academy of Pharmacy Technology at Jane Long	62	50	61	50	0	0	123	253
Academy of Network Computer Administration at Scarborough H. S.	36	38	30	31	30	31	96	125
Academy of Logistics & Global Supply at Sterling H.S.	0	0	27	75	9	25	36	79
Academy of Manufacturing & Engineering Technology at Washington H. S.	0	0	0	0	7	100	7	57
Academy of Health Sciences at Westside H. S.	43	47	49	53	0	0	92	222
Total	191	39	214	44	82	17	487	1181

Table 2: Percentage of Futures Academy students and all HISD grade 10–12 students by demographic category, 2014–2015

	Grade 10		Grade 11		Grade 12		Total	
	Futures (%)	HISD (%)	Futures (%)	HISD (%)	Futures (%)	HISD (%)	Futures (%)	HISD (%)
Gender								
Female	53.2	50.0	56.4	50.1	56.1	50.9	55.1	50.3
Male	46.8	50.0	43.6	49.9	43.9	49.1	44.9	49.7
Race/Ethnicity								
African American	23.7	25.3	28.0	25.9	36.6	24.9	27.6	25.4
American Indian	0.0	0.2	0.0	0.3	0.0	0.2	0.0	0.2
Asian/Pacific Islander	6.8	3.8	7.6	4.1	0.0	4.7	6.0	4.2
Hispanic	61.6	59.1	55.5	57.3	59.8	59.8	58.8	58.7
White	6.8	10.9	8.5	11.6	3.7	9.8	7.0	10.8
Two or More	1.1	0.7	0.5	0.9	0.0	0.7	0.6	0.8
Economic Disadvantage								
Free Lunch	40.0	30.6	28.9	30.8	32.9	33.9	33.8	31.7
Reduced Lunch	9.5	8.0	7.6	7.4	11.0	9.0	8.9	8.1
Other Economic Disadvantage	27.9	30.6	34.6	28.4	30.5	24.6	31.5	28.0
No Economic Disadvantage	22.6	30.8	28.9	33.4	25.6	32.5	25.8	32.2
At-Risk Status								
At-Risk	44.2	67.7	54.0	66.2	69.5	73.0	53.0	68.8
Not At-Risk	55.8	32.3	46.0	33.8	30.5	27.0	47.0	31.2
Limited English Proficiency (LEP)								
LEP	4.2	11.6	5.7	8.7	2.4	11.0	4.1	10.5
Not LEP	87.4	98.0	94.3	91.3	97.6	89.0	95.9	89.5
Gifted Talented (GT) Status								
GT	30.0	17.3	20.4	16.5	26.8	16.8	25.2	16.9
Not GT	70.0	82.7	79.6	83.5	73.2	83.2	74.8	83.1
Career and Technical Education (CTE) Status								
CTE Plan	84.7	46.8	72.0	40.2	82.9	32.2	79.0	40.1
CTE Classes/Not on Plan	10.0	16.7	27.0	20.5	17.1	25.0	18.6	20.5
Note CTE	5.3	36.6	0.9	39.3	0.0	42.8	2.5	39.4

Table 3: Mean PSAT/NMSQT performance and GPA outcomes for Futures Academy students and all HISD students by grade level and subject, Fall 2014

	Grade 10			Grade 11			Grade 12		Total	
	CCR Benchmark	Futures	HISD	**CCR Benchmark**	Futures	HISD	Futures	HISD	Futures	HISD
PSAT/NMSQT										
Critical Reading	**42**	40.3	36.9	**45**	41.5	39.9	*	*	40.9	38.3
Mathematics	**44**	44.3	39.6	**47**	45.3	42.9	*	*	44.8	41.1
Writing	**42**	38.3	35.5	**45**	40.8	39.0	*	*	39.6	37.1
Composite	**133**	122.9	112.2	**142**	127.6	122.0	*	*	125.3	116.7
Met CCR benchmark	*	26%	20%	*****	29%	23%	*	*	28%	21%
Grade Point Average										
End of Year	*	3.4	2.6		3.3	2.8	3.2	2.8	2.7	3.3

Table 4: Futures Academy student applications for the 2015–2016 academic year

	Complete Applications	**Qualified for Program**	**Percentage of Qualified Applications (compared to total for all academies)**
Wall to Wall			
Academy of Allied health Construction Technology at Jones	411	288	36%
Academy of Pharmacy Technology at Jane Long	49	41	5%
Comprehensive			
Academy of Petroleum Engineering Technology at Furr	87	86	11%
Academy of Process Technology Kashmere H. S.	37	11	1%
Academy of Network Computer Administration at Scarborough H. S.	49	47	6%
Academy of Logistics & Global Supply at Sterling H.S.	13	12	1%
Academy of Manufacturing & Engineering Technology at Washington H. S.	34	24	3%
Academy of Health Sciences at Westside H. S.	674	300	37%
Total	**1354**	**809**	**100%**

Table 5: Independent sample *t*-test of the PSAT/NMSQT scores of Futures Academy students and all other HISD high school students, 2014–2015

	N	Mean	Standard Deviation	Standard error	t	df	Cohen's d (effect size)
Futures Academy	396	125.35	23.53	1.1825	7.26**	421.87	0.32
HISD Students	19354	116.62	30.09	0.2163			

**p<.001

Note: Suggestions for interpreting effect size (Cohen's d) are: .10 to .29=small, .30 to .49=medium, .50 to 1.0=large

Table 6: Independent sample *t*-test of the PSAT/NMSQT scores of Futures Academy students and all other HISD high school students who are identified as economically disadvantaged, at-risk, and non-G/T, 2014–2015

	N	Mean	Standard Deviation	Standard error	t	df	Cohen's d (effect size)
Futures Academy	155	110.48	17.63	1.4163	6.48**	159.93	0.51
HISD Students	9076	101.22	18.63	0.1956			

**p<.001

Note: Suggestions for interpreting effect size (Cohen's d) are: .10 to .29=small, .30 to .49=medium, .50 to 1.0=large

Table 7: Independent sample *t*-test of Grade Point Averages of Futures Academy students and all other HISD high school students, 2014–2015

	N	Mean	Standard Deviation	Standard error	t	df	Cohen's d (effect size)
Futures Academy	476	3.32	0.67	0.0308	20.25**	33724	0.79
HISD Students	33250	2.69	0.91	0.0050			

**p<.001

Note: Suggestions for interpreting effect size (Cohen's d) are: .10 to .29=small, .30 to .49=medium, .50 to 1.0=large

Table 8: Independent sample *t*-test of Grade Point Averages of Futures Academy students and all other HISD high school students who are identified as economically disadvantaged, at-risk, and non-G/T, 2014–2015

	N	Mean	Standard Deviation	Standard error	t	df	Cohen's d (effect size)
Futures Academy	188	2.94	0.58	0.0426	13.88	193.88	0.92
HISD Students	15177	2.34	0.71	0.0058			

**p<.001

Note: Suggestions for interpreting effect size (Cohen's d) are: .10 to .29=small, .30 to .49=medium, .50 to 1.0=large