RESEARCH

Educational Program Report

HOUSTON Independent School District

Creating a College-Bound Culture

Advanced Placement (AP) Monitoring System Report 2007-2008

Department of Research and Accountability
Houston Independent School District

2009 Board of Education

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EXECUTIVE SUMMARY

ADVANCED PLACEMENT (AP) MONITORING SYSTEM REPORT 2007–2008

Introduction

During the 2004–2005 school year, the HISD Board of Education approved the *Advanced Placement Initiative,* for which the overall goal was to increase student achievement by continuing to raise academic expectations for all students. To accomplish this, the following objectives were established:

- Increase the number of students enrolled in Pre-Advanced Placement and Advanced Placement courses,
- Increase the number of students taking the AP examinations,
- Increase the number of students with a qualifying score of 3, 4 , or 5 on the AP examinations,
- Ensure that every high school offers Pre-AP and AP courses in all core subjects, and
- Report progress in meeting the goal and objectives for the district.

To support the initiative, several components were added over the next three years. On April 14, 2005, the district accepted a $2.2 million grant for five years from the Michael and Susan Dell foundation (MSDF) in partnership with AP Strategies, Inc. (APS) that was designed to increase the number of students taking and achieving qualifying scores of 3, 4, or 5 on AP English, mathematics, and science examinations. Students receiving qualifying scores and their teachers at four high schools received incentives. The four incentive high schools were Cesar Chavez, Robert E. Lee, Charles Milby, and Sharpstown. Six schools that submitted outstanding applications were designated as bonus schools, where AP English, mathematics, and science teachers could earn between $1,000 and $3,000 bonuses upon reaching goals set by APS. The six high schools included Stephen F. Austin, Bellaire, Michael E. DeBakey High School for Health Professions, Ebbert Furr, Westbury, and Westside.

In 2005–2006, HISD launched "Creating a College Bound Culture." This initiative was designed to ensure that HISD students would be prepared to compete in today's society and meet college entry requirements. The district provided more opportunities for students to take Pre-AP and AP courses and expanded the dual credit program. Moreover, the district also promoted increased parent involvement in its efforts to encourage and guide parents to help their children excel academically.

During this same timeframe, Pre-AP and AP English, mathematics, and science teachers had the opportunity to attend training through *Laying the Foundation*. This training focused on effective delivery of rigorous instruction.

The 2006–2007 school year marked the first year of implementation of the AP Incentive Program in the four HISD high schools as well as the six bonus schools.

On May 27, 2008, HISD released Standard Practice Memorandum 5610.A, a document designed to describe and provide guidelines regarding the implementation of the *Advanced Placement Initiative.*

Program Description

The AP Program provides participating students with the opportunity to take college-level courses while still in high school and earn college credit, advanced placement, or both. Thirty-seven AP courses and examinations, covering 22 subject areas, are administered in May at participating schools. Italian Language and Culture, Japanese Language and Culture, and Russian Language and Culture represent the newest

courses offered. The examination format consists of two sections, multiple-choice and free-response (problem-solving or essay). The exceptions are Studio Art, which consists of student-submitted portfolios, Music Theory, which includes a sight-singing task, and modern language exams, which include a performance section (College Board, AP Central, 2008a;2008b).

Students who participate in the AP program have opportunities to study a particular subject in greater depth provided by highly qualified teachers. This experience may assist students in determining what educational path they may wish to pursue. By taking AP courses, students develop advanced skills sets and study habits that ultimately prepare them for college studies. Families may experience financial benefits if their child receives advanced placement, college credit or both (College Board, AP Central, 2008c).

Other benefits afforded to students include opportunities that lead to scholarships or recognition. The Siemens Awards for Advanced Placement is a scholarship with an award ranging from $2,000 to $5,000 given to students (one male and one female) from each of the 50 states who have earned the most number of AP grades of 5 in eight exams (Biology, Calculus BC, Chemistry, Computer Science AB, Environmental Science, Physics C: Mechanics, Physics C: Electricity and Magnetism, and Statistics). In addition, the AP program offers a number of Scholar Awards to AP students who have shown outstanding achievement (College Board, AP Central, 2008d;2008e).

Each examination subject is graded on a scale of 1 (No recommendation) to 5 (Extremely well qualified). After the examinations have been administered in May, participating schools return all AP materials to the Educational Testing Service (ETS). Multiple-choice sections are scored by computer. The free-response section is typically scored using a three-step process: development of preliminary scoring standards, establishment of final scoring standards, and the reading (College Board, AP Central, 2004).

Key Findings

1. What were the Pre-AP and AP enrollment trends from 2003–2004 to 2007–2008?

- Although district enrollment (grades 6–12) has declined by 6.3 percent over a five-year period, the total number of students enrolled in Pre-AP courses in 2003–2004 (before the *AP Intiative*) increased by 12,846 students or 58.6 percent compared to 2007–2008.

- From 2003–2004 to 2007–2008, Pre-AP enrollment increased for all minority (African American and Hispanic students) and economically disadvantaged students by 89.3, 94.2, and 87.7 percent, respectively.

- Pre-AP enrollment levels declined for all students and all student groups when comparing actual enrollments from 2006–2007 to 2007–2008, with the exception of Native American students.

- AP enrollment trends indicate that there has been an increase for all students and for minority and economically disadvantaged students over a 5-year, 4-year, and 1-year period even though district enrollment levels for grades 9–12 have declined by -3.5, -3.4, and -1.5.

- When comparing actual AP enrollment for 2006–2007 to 2007–2008, an increase occurred for all students and all student groups, with the exception of Native American and White students.

2. What were the demographic characteristics of HISD students enrolled in Pre-AP/AP courses compared to overall district enrollment?

- When comparing the differential of Pre-AP to district enrollment, there is an underrepresentation of African American, Hispanic, male, and economically disadvantaged students in the Pre-AP program (2.7,

2.5, 3.7, and 4.7 percentage points, respectively).

- When comparing the Pre-AP student demographic profile to that of the district prior to the *Advanced Placement Initiative* and subsequently for 2007–2008, the differentials for minority and socioeconomically disadvantaged students have declined substantially. Therefore, the district is moving in a positive direction with regard to equity in the Pre-AP program.

- The percentage of students in the district who enrolled in at least one Pre-AP course increased from 23.8 percent in 2003–2004 to 40.2 percent in 2007–2008.

- When comparing the differential of AP to district enrollment, there is an underrepresentation of African American, Hispanic, male, and economically disadvantaged students in the AP program by 6.2, 11.3, 7.3, 14.5 percentage points, respectively.

- When comparing the AP student demographic profile to that of the district prior to the *Advanced Placement Initiative* and subsequently for 2007–2008, the differentials for minority students have declined slightly; however, the differential for economically disadvantaged students increased from -11.6 in 2003–2004 to -14.5 in 2007–2008.

- The percentage of students in the district who enrolled in at least one AP course increased from 12.9 percent in 2003–2004 to 16.5 percent in 2007–2008.

3. What were the completion rates of 2007–2008 HISD students in AP courses?

- For the 2007–2008 school year, 95.4 percent of all students completed AP courses.

- The percentage of students completing AP courses by student group ranged from 93.7 percent for Hispanic students to 100.0 percent for Native American students.

- For 2008, 64.3 percent of the students completing AP courses took the corresponding AP exam, and 41.4 percent of the exams were scored at 3 or higher.

4. What was the level of participation for 2007–2008 HISD students in the AP subject tests?

- A total of 5,447 HISD high school students from 30 campuses participated in the 2008 AP test administration. This represents an increase of 25.6 percent over the past three years, and a 13.2 percent increase over the previous year.

- During the 2008 school year, 97 eighth grade students attending five middle schools took the AP Spanish Language Exam. The participating middle schools included: Thomas "Stonewall" Jackson, Albert Sidney Johnston, Sidney Lanier, Jane Long, and Sharpstown.

- Among the ethnic groups, Native Americans and Asians comprised the lowest percentages of 2008 AP test-takers (0.2 percent and 12.7 percent, respectively).

- Males comprised a lower percentage of 2008 AP test-takers compared to females, (41.3 percent and 58.7 percent, respectively).

- Participation in taking AP exams varied markedly by campus. The number of students taking AP exams ranged from 12 at Eastwood Academy to 896 at Bellaire.

5. During 2007–2008, what were the mean scores of HISD students on the AP subject tests?

- For 2008, mean scores ranged from 1.55 in French Literature to 4.80 in Computer Science AB.

- For 2008, HISD students exceeded the global mean scores for 9 out of 34 subject examinations.

- When comparing AP subject tests for 2007 and 2008, mean scores increased in 7 out of 32 AP subject examinations where five or more students were tested.

6. What percentage of students in HISD scored a 3 or better on AP subject tests for the past two years?

- For the 2007–2008 school year, 10,148 AP examinations were taken by HISD students, where 43.8 percent of the scores were 3 or higher. This represents a decline from the previous year when 47.4 percent of the scores were 3 or above.

- When comparing 2007 to 2008, the number of students taking AP exams, the number of exams taken, and the number of exams scored 3 or higher increased.

- The percentage of scores that were a 3 or higher by high school campus where five or more students were tested ranged from 0.0 percent at Ross Sterling and Evan Worthing High Schools to 84.2 percent at Mirabeau B. Lamar High School.

7. How has participation and performance on AP subject tests progressed from 1998 to 2008?

   Although participation in the AP program has increased from 1,025 students in 1998 to 5,425 students in 2008, district mean scores have decreased from 3.20 to 2.45 over the same time period.

8. What was the number of AP Scholar Award Recipients?

- For 2008, there was a total of 762 AP Scholar Award recipients from 18 campuses compared to 763 AP Scholar Award recipients from 19 campuses in 2007.

- There were 327 AP Scholars, 139 AP Scholars with Honor, 296 AP Scholars with Distinction, and 84 National AP Scholars in 2008.

- Bellaire, Carnegie Vanguard High School, Michael E. DeBakey High School for Health Professions, High School for Performing and Visual Arts (HSPVA), and Westside High School had the greatest number of students who were AP Scholar recipients, and were the only campuses where one or more students earned the designation of National AP Scholar.

- Carnegie, Robert E. Lee, and Charles Milby high schools demonstrated the greatest increases in the number of AP Scholars when comparing 2007 to 2008 with 11, 11, and 13 scholar recipients. The largest decrease from 2007 to 2008 occurred for HSPVA where the number of AP scholarship recipients dropped by 24.

9. How many teachers received Pre-AP and AP training in English, mathematics, and science for the past two years?

   For the 2007–2008 school year, a total of 1,468 teachers received Pre-AP and/or AP training in English, mathematics, or science. English was the content area for which the greatest number of teachers were trained (n=599). This reflects a 3.4 percent decline from 2006–2007.

10. How many high school campuses offered Pre-AP and AP courses in the four core content areas for 2003–2004 and 2008–2009?

- Out of the 29 high school campuses that were operational in both 2003–2004 and 2008–2009, a total of six campuses or 20.7 percent increased their Pre-AP course offerings so that at least one Pre-AP course was

offered in the four core content areas by the 2008–2009 school year.

- Out of 38 campuses, a total of 30 or 78.9 percent offered at least one Pre-AP course in the four core content areas (English, mathematics, science, and social studies) during the 2008–2009 school year.

- Out of 37 campuses, 19 or 51.4 percent offered at least one AP course in the four core content areas in 2008–2009.

- Of the 18 campuses that did not offer AP courses in the four core content areas in 2008–2009, 15 did not offer an AP science course, 9 did not offer an AP mathematics course, 8 did not offer an AP English course, and 7 did not offer an AP social studies course.

- For 2003–2004 and 2008–2009, some campuses offered AP courses for which there were no Pre-AP pre-requisite courses provided impacting vertical alignment.

Recommendations

1. Continue to identify successful efforts to promote participation and performance among students, especially economically disadvantaged students, and parents about the benefits of the AP program, which includes scholarships, recognition, and college credit/advanced placement.
2. To increase student achievement, continue to provide adequate and relevant professional development opportunities, especially in the area of science and mathematics. Additionally, strengthen the curriculum in middle school so that students have a strong educational foundation not only academically, but also with regard to the development of higher order thinking skills and time management skills.
3. On the campus level, monitor the students enrolled in AP courses and the students who subsequently take the AP subject examinations.
4. In order to promote equity and excellence, consideration should be given to creating opportunities for students to take prerequisite mathematics and science courses so that those showing ability or motivation in tenth grade have the necessary foundation to be successful and meet course requirements.
5. In order to promote equity across the district, consideration should be given to ensuring that secondary campuses offer Pre-AP and AP courses in the four core content areas and that course selections are vertically aligned.
6. For campuses with low participation and performance rates, focus on the development of vertical teams (elementary, middle, and high school) so that student preparation is strengthened prior to taking AP courses and monitor the rigor of the courses.
7. For campuses with low performance rates, introduce interventions to help students develop study skills and provide opportunities for students to take prerequisite mathematics and science courses during the year in an accelerated block or during the summer of ninth and tenth grade. Share strategies and best practices for these interventions on the HISD website and with Professional Learning Communities.
8. For campuses with low participation rates, ensure that they are provided a list of students from AP Potential so that these students can be enrolled in the appropriate AP classes.

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Introduction

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task; and modern language exams, which include a performance section (College Board, AP Central, 2008a;2008b).

For the 2007–2008 school year, schools had all courses labeled as "AP" authorized through the College Board AP Course Audit process. This audit process will ensure that quality courses meeting "AP" requirements are being offered, and that colleges and universities have a venue to review authorized courses offered by secondary schools (College Board, AP Central, 2008f). For the 2007–2008 school year, HISD had 390 authorized courses at 30 high schools.

Students who participate in the AP program have opportunities to study a particular subject in greater depth provided by highly qualified teachers. This experience may assist students in determining what educational path they may wish to pursue. By taking AP courses, students develop advanced skills sets and study habits that ultimately prepare them for college studies. Families may experience financial benefits if their child receives advanced placement, college credit or both (College Board, AP Central, 2008c).

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The AP program also offers a number of Scholar Awards to AP students who have shown outstanding achievement. Students receive an award certificate, and this achievement is acknowledged on any grade report that is sent to colleges the following fall. There are four different levels. These include the following:

1. AP Scholar–granted to students who receive grades of 3 or higher on three or more AP exams.
2. AP Scholar with Honor–granted to students who receive an average grade of at least 3.25 on all AP exams taken, and grades of 3 or higher on four or more of these exams.
3. AP Scholar with Distinction–granted to students who receive an average grade of at least 3.5 on all AP exams taken, and grades of 3 or higher on five or more of these exams.
4. National AP Scholar–granted to students in the United States who receive an average grade of at least 4 on all AP exams taken, and grades of 4 or higher on eight or more of these exams (College Board, AP Central, 2007e).

In addition, teachers involved in the AP program benefit from professional development opportunities such as workshops and Summer Institutes. Furthermore, experienced AP teachers may be selected to become "Readers" for the AP exams or Workshop Consultants. Teachers also receive support from AP through on-line materials, publications, conferences, and consultants (College Board, AP Central, 2008g).

Scoring

Each examination subject is graded on a scale of 1 (No recommendation) to 5 (Extremely well qualified). Typically, scores of 3 or above qualify a student to receive advanced placement, college credit, or both. After the examinations have been administered in May, participating schools return all AP materials to the Educational Testing Service (ETS). Multiple-choice sections are scored by computer. The free-response section is typically scored using a three-step process: development of preliminary scoring standards, establishment of final scoring standards, and the reading. AP examinations may be compared from one year to another through equating (College Board, AP Central, 2004).

Program Costs and Funding Source

The AP examination fee was $84 per exam for the 2007–2008 school year. The Texas Education Agency (TEA) paid $30 of the cost of

every AP exam taken by an eligible Texas high school student. Rather than charging $84 for an AP Exam, the College Board charges Texas students $54 per exam. The College Board provides a $22 fee reduction per exam for students with acute financial need that qualify, and TEA will pay an additional $18 for each exam taken by students who qualify for the College Board fee reduction. If the testing center waives the $8 administrative fee, the AP exam cost for low-income students is $6 (College Board, AP Central, 2008h)

In 1993, the Texas Legislature adopted the Advanced Placement/International Baccalaureate (IB) Incentive Program. One facet of the law provides for campus awards up to $100 for each student who scored either a 3 or better on at least one AP examination or a 4 or above on an IB examination. Campus awards are used for academic enhancement purposes, and campuses earning the funds determine how the funds are to be used (Texas Education Agency, 2008a).

A second facet of the law provides teacher training reimbursements of up to $450 per teacher for teachers completing the approved five-day AP summer institutes. The reimbursement includes not only high school teachers, but also middle school teachers (Texas Education Agency, 2008b).

For the 2007–2008 school year, a total of $740,992 was allocated from Title II for AP Strategies. These funds were used for professional development purposes focusing on middle and high school teachers. In addition, AP Strategies paid $420,936.78 that included $30,000 for three Lead Teachers, one in English language arts, one in mathematics, and one in science, as well as bonuses, stipends, and incentives in the amount of $44,000 paid to teachers participating in the AP Incentive Program. Performance Pay in the amount of $58,600 was awarded to teachers who were not participating in the AP Incentive Program.

Admission

The philosophy of HISD is based on excellence and equity which offers open enrollment that enables all motivated students to participate in Pre-AP and AP courses (Houston Independent School District, 2008).

During the 2004–2005 school year, HISD implemented the *Advanced Placement Initiative*. It was the first public school district in the nation to require students to take more demanding Pre-AP and AP courses. There were two components. Since Pre-AP courses provide the foundation necessary to prepare students for the AP college level courses, the first component of the Advanced Placement Initiative involved requiring all sixth grade students to take Pre-AP English classes. A grade level was added each year, and by 2006–2007, all sixth, seventh, and eighth grade students were required to take Pre-AP English. For the 2007–2008 school year, the guidelines were amended by defaulting students into Pre-AP English who passed the previous years TAKS exam. Rosters were created and provided to the schools to facilitate the process. It is important to emphasize that an open enrollment policy exists in the district, and by creating rosters in no way excluded any student from participating. Additionally, instruction was provided by teachers who completed the College Board Pre-AP English training (Houston Independent School District, 2008).

The second component incorporated the philosophy of open enrollment to all motivated students to participate in AP courses. Further, the second component used students' tenth grade scores from the PSAT to default students into AP courses where they demonstrated strengths and for which they completed prerequisite courses (Houston Independent School District, 2008).

Curriculum

Pre-AP classes are aligned with the College Board Advanced Placement course curriculum objectives. These classes provide a foundation that prepares students for taking AP courses. The AP curriculum consists of university level courses that have been developed by the College Board. Students are encouraged to take AP exams after completing AP courses. Successful completion of AP exams gives students the possibility of receiving advanced placement and/

or college credit. AP course offerings vary at every campus (Houston Independent School District, 2008).

Purpose

The purpose of this report was to assess the impact of the AP program on the educational opportunities available to HISD students by addressing the following research questions:

1. What were the Pre-AP and AP enrollment trends from 2003–2004 to 2007–2008?
2. What were the demographic characteristics of HISD students enrolled in Pre-AP/AP courses compared to overall district enrollment?
3. What were the completion rates of 2007–2008 HISD students in AP courses?
4. What was the level of participation for 2007–2008 HISD students in the AP subject tests?
5. During 2007–2008, what were the mean scores of HISD students on the AP subject tests?
6. What percentage of students in HISD scored a 3 or better on AP subject tests for the past two years?
7. How has participation and performance on AP subject tests progressed from 1998 to 2008?
8. What was the number of AP Scholar Award Recipients?
9. How many teachers received Pre-AP and AP training in English, mathematics, and science for the past two years?
10. How many high school campuses offered Pre-AP and AP courses in the four core content areas for 2003–2004 and 2008–2009?

Methods

Data Limitations

The College Board receives AP data from the Educational Testing Service (ETS). It is important to understand that the extracts are made from a "live" data base that changes from one day to the next as scoring and adjustments to individual student records progresses in the months following the examination administration. Therefore, discrepancies may exist between the two sources of data that are used for AP exam reporting purposes, namely the College Board Reports and the College Board data file based on the time of the data extract. Similarly, data for the state of Texas is included in the College Board Report, but this information is also available by late November on the College Board website. The Texas data may differ for these two sources. Similarly, each year, the district receives five years of College Board Reports. These reports reflect all of the updated information. However, the student level data files are not updated. Therefore, when disaggregated student-level data are required for previous years, the data do not reflect the updates that were present on the College Board Reports.

Due to issues related to mobility, the unduplicated count of students taking AP courses by campus will not equal the unduplicated count of students taking AP courses for the district. More specifically, a student may attend more than one campus during an academic year. If the student enrolled in AP courses at two campuses, then each campus will count that student as taking at least one AP course; however, districtwide, the student will not be counted twice.

To provide disaggregated student level demographic information, the College Board AP electronic database was matched to the Public Education Information Management System (PEIMS) database. Since the PEIMS database reflects a snapshot taken on the last Friday in October, those students who were not present would not be included in the database. There was a total of 66 students taking AP exams who could not be matched to PEIMS for economic status.

Students who were identified as enrolled in Pre-AP or AP courses were required to be active

students and to have at least one conduct mark and/or grade recorded. Economic status was extracted from the PEIMS database. If a student could not be matched to PEIMS, then they were included in the analysis, but their economic status was stated as "missing."

Data Collection and Analysis

Longitudinal test performance from 1998–2008, along with demographic information supplied by students, was reported to HISD for each participating campus by the College Board via printed reports and an electronic database. The 2008 global scores for test performance by subject were extracted from the 2008 College Board Report. These data, together with enrollment data from PEIMS, were analyzed. State level data, including the number of AP subject tests taken along with the percentage of scores that were 3 or above, were extracted from the 1998–2008 College Board Reports. Participation rates for juniors and seniors were calculated by dividing the number of students tested by the PEIMS snapshot of fall enrollment for the same group. Participation rates for juniors and seniors were calculated across the district and by school. AP Scholar Awards were extracted from the 2007 and 2008 College Board School Rosters.

Pre-AP and AP enrollment, gender, and ethnicity were extracted from the Schools Administrative Student Information System (SASI) for 2003–2004 through 2005–2006 and from Chancery Student Management System (SMS) for 2006–2007 and 2007–2008. Economic status was extracted from the PEIMS data base along with district enrollment. Pre-AP and AP enrollment by high school campus and subject was extracted from SASI for 2003–2004 and Chancery (SMS) for 2008–2009.

The number of students eligible to complete AP courses consists of those enrolled in the second semester of a two-semester course and/or those enrolled in a one semester course. Completion percentages are based on the number eligible to complete and the number completing.

Course completion was determined by counting those students who received a semester average grade of 70 or higher for the second semester (Part B) of a two-semester course or receiving a 70 or higher for a one-semester course. Once this was computed, it was divided by the total number of students who were eligible to complete.

AP examinations were linked to corresponding AP courses by student. Some counts may be imprecise because data required to match students to each database were not available. Additionally, completion rates and subsequent testing were based on the 2007–2008 school year. Therefore, a student was required to complete the course within the school year and test in the spring of 2008 to be considered as taking the course with the corresponding exam.

Mean test scores by gender, race/ethnicity, and economic status for AP subjects were analyzed by comparing mean and differential scores. For race/ethnicity, the number of Hispanic students combines the total populations for the Chicano/Mexican, Puerto Rican, and Other Hispanic racial/ethnic categories. When examining differential scores, White students were used as a reference group because White students typically outperform minority students on standardized tests. To determine the percentage of students who scored 3 or above on AP subject tests by race/ethnicity, the total number of tests scoring a 3 or higher was divided by the total number of tests taken for each ethnic category.

Results

What were the Pre-AP and AP enrollment trends from 2003–2004 to 2007–2008?

Tables 1 and **2** depict Pre-AP and AP enrollment trends prior to the implementation of the initiative (2003–2004) until 2007–2008 and disaggregated by ethnicity, gender, and socioeconomic status. For comparative purposes, the district enrollment is provided as well as the percent change in enrollment over a five year period (before the initiative to 2007–2008), over four years (first year of implementation to 2007–2008), and over 1 year (2006–2007 to

Table 1. HISD Pre-AP and District Enrollment (Grades 6–12) by Race/Ethnicity, Gender and Economic Status (unduplicated), 2003–2004 to 2007–2008

	Before AP Initiative	AP Initiative						
		Year 1	Year 2	Year 3	Year 4	% Δ		
	2003–04	2004–05	2005–06	2006–07	2007–08	5-yr	4-yr	1-yr
All Students	21,932	29,347	33,743	38,271	34,778	58.6	18.5	-9.1
African American	5,143	7,992	10,492	11,125	9,734	89.3	21.8	-12.5
Asian	1,714	1,948	2,024	1,990	1,907	11.3	-2.1	-4.2
Hispanic	9,647	13,663	15,884	20,304	18,737	94.2	37.1	-7.7
Native American	28	37	41	33	33	17.9	-10.8	0.0
White	4,867	5,707	5,302	4,819	4,367	-10.3	-23.5	-9.4
Male	9,370	13,206	15,678	18,009	16,319	74.2	23.6	-9.4
Female	12,029	16,141	18,065	20,262	18,459	53.5	14.4	-8.9
Econ. Disadv.	12,488	19,193	22,288	25,771	23,446	87.7	22.2	-9.0
Missing Econ. Disadv.	533	0	1,013	1,175	905			
District Grades 6–12	92,327	92,386	93,110	89,467	86,540	-6.3	-6.3	-3.3

Note: Economically disadvantaged status was stated as "missing" if a student could not be matched to the PEIMS database.
Source: SASI: 2003–2004 to 2005–2006; Chancery (SMS): 2006–2007 and 2007–2008; PEIMS: 2003 to 2007 Fall data submission.

Table 2. HISD AP and District Enrollment (Grades 9–12) by Race/Ethnicity, Gender and Economic Status (unduplicated), 2003–2004 to 2007–2008

	Before AP Initiative	AP Initiative						
		Year 1	Year 2	Year 3	Year 4	% Δ		
	2003–04	2004–05	2005–06	2006–07	2007–08	5-yr	4-yr	1-yr
All Students	6,279	6,703	7,529	7,505	7,754	23.5	15.7	3.3
African American	1,568	1,699	1,931	1,825	1,964	25.3	15.6	7.6
Asian	660	687	748	780	813	23.2	18.3	4.2
Hispanic	2,508	2,790	3,156	3,119	3,304	31.7	18.4	5.9
Native American	7	9	10	9	9	28.6	0.0	0.0
White	1,448	1,518	1,684	1,772	1,664	14.9	9.6	-6.1
Male	2,535	2,722	3,123	3,073	3,310	30.6	21.6	7.7
Female	3,656	3,981	4,406	4,432	4,444	21.6	11.6	0.3
Econ. Disadv.	3,195	3,665	4,064	3,669	4,010	25.5	9.4	9.3
Missing Econ. Disadv.	88	0	78	53	66			
District Grades 9–12	48,686	48,637	49,714	47,696	46,965	-3.5	-3.4	-1.5

Note: Economically disadvantaged status was stated as "missing" if a student could not be matched to the PEIMS database.
Source: SASI: 2003–2004 to 2005–2006; Chancery (SMS): 2006–2007 and 2007–2008; PEIMS: 2003 to 2007 Fall data submission.

2007–2008). Pre-AP enrollment encompasses grades 6–12, while AP enrollment consists of grades 9–12. Although district enrollment (grades 6–12) has declined by 6.3 percent over a five year period, the total number of students enrolled in Pre-AP courses in 2003–2004 (before the intiative) increased by 12,846 students or 58.6 percent compared to 2007–2008. (Table 1). Over a five year period, Pre-AP enrollment increased for all minority (African American and Hispanic students) and economically disadvantaged students by 89.3, 94.2, and 87.7 percent, respectively. Since the first year of implementation, increases in the number of all students, minority students, and economically disadvantaged students in Pre-AP participation occurred, even with declining district enrollment. However, over the past year, there was a decline in the total Pre-AP enrollment by 9.1 percent with subsequent declines in all student groups,

with the exception of Native American students for which there was no change. The number of African American, Asian, Hispanic, and White students has declined when comparing 2006–2007 enrollment to 2007–2008 by -12.5, -4.2, -7.7, and -9.4 percent, respectively. Decreases in Pre-AP enrollment were accompanied by decreases in district enrollment from 2006–2007 to 2007–2008 by -3.3 percent. Other major trends include a decline in the number of White students enrolled in Pre-AP courses over a 5-year, 4-year, and 1-year period, and a decline in the number of Asian students over a 4-year and 1-year period.

Pre-AP declines in enrollment from 2006–2007 to 2007–2008 may be attributed, in part, to the changes in the implemenation of the *Advanced Placement Initiative* guidelines. During the 2007–2008 school year, middle school students were required to enroll in Pre-AP English classes if they passed the previous year's TAKS Reading assessment. Prior to that, all middle school students were required to enroll in Pre-AP English classes. Declining district enrollments may also impact Pre-AP levels of enrollment.

AP enrollment trends indicate that there has been an increase for all students and for minority and economically disadvantaged students over a 5-year, 4-year, and 1-year period even though district enrollment levels for grades 9–12 have declined by -3.5, -3.4, and -1.5 percent, respectively. However, there was a decline in AP enrollment for White students from 2006–2007 to 2007–2008 by -6.1 percent.

What were the demographic characteristics of HISD students enrolled in Pre-AP/AP courses compared to overall district enrollment?

An important component of the AP Monitoring System was to measure the gaps in enrollment among underrepresented student groups to ensure equity of the program across the district. To accomplish this, Pre-AP and AP enrollment was compared to enrollment in the district by gender and student group. Ultimately, the demographic composition of students enrolled in the Pre-AP and AP program should reflect the composition of the district. **Tables 3** and **4** show a comparison of Pre-AP and AP student demographics to the district for 2003–2004 (prior to the intiative) and 2007–2008. Percentages may not add up to 100 percent due to rounding. Of the 21,932 students enrolled in Pre-AP courses in 2003–2004, 23.4 percent were African American, 7.8 percent were Asian, 44.0 percent were Hispanic, 0.1 percent were Native American, 22.2 percent were White (Table 3). There were 533 students

Table 3. Comparison of Pre-AP Student Demographics to the District, 2003–2004 and 2007–2008 (unduplicated)

	2003–2004 (Before Initative)					2007–2008				
	Pre-AP		District 6–12			Pre-AP		District 6–12		
	N	%	N	%	Diff.	N	%	N	%	Diff.
All Students	21,932		92,327			34,778		86,540		
African American	5,143	23.4	29,119	31.5	-8.1	9,734	28.0	26,586	30.7	-2.7
Asian	1,714	7.8	3,039	3.3	4.5	1,907	5.5	3,049	3.5	2.0
Hispanic	9,647	44.0	50,139	54.3	-10.3	18,737	53.9	48,772	56.4	-2.5
Native American	28	0.1	65	0.1	0.0	33	0.1	66	0.1	0.0
White	4,867	22.2	9,965	10.8	11.4	4,367	12.6	8,067	9.3	3.3
Male	9,370	42.7	46,793	50.7	-8.0	16,319	46.9	43,760	50.6	-3.7
Female	12,029	54.8	45,534	49.3	5.5	18,459	53.1	42,780	49.4	3.7
Econ. Disadv.	12,488	56.9	69,652	75.4	-18.5	23,446	67.4	62,390	72.1	-4.7
Missing Econ. Disadv.	533	2.4	0	0.0	-	905	2.6	0	0.0	-

Note: Economically disadvantaged status was stated as "missing" if a student could not be matched to the PEIMS database. For 2003–2004, ethnicity, gender, and socioeconomic status were "missing" for 533 Pre-AP students because they could not be matched to the PEIMS database.
Sources: Chancery (SMS): 2003–2004 and 2007–2008; PEIMS: 2003 and 2007 Fall Data Submission.

Table 4. Comparison of AP Student Demographics to the District, 2003–2004 and 2007–2008 (unduplicated)

	2003–2004 (Before Initative)					2007–2008				
	AP		District 9–12			AP		District 9–12		
	N	%	N	%	Diff	N	%	N	%	Diff
All Students	6,279		48,686			7,754		46,965		
African American	1,568	25.0	15,355	31.5	-6.5	1,964	25.3	14,777	31.5	-6.2
Asian	660	10.5	1,788	3.7	6.8	813	10.5	1,859	4.0	6.5
Hispanic	2,508	39.9	25,587	52.6	-12.7	3,304	42.6	25,323	53.9	-11.3
Native American	7	0.1	32	0.1	0	9	0.1	40	0.1	0.0
White	1,448	23.1	5,924	12.2	10.9	1,664	21.5	4,966	10.6	10.9
Male	2,535	40.4	24,481	50.3	-9.9	3,310	42.7	23,464	50.0	-7.3
Female	3,656	58.2	24,205	49.7	8.5	4,444	57.3	23,501	50.0	7.3
Econ. Disadv.	3,195	50.9	30,405	62.5	-11.6	4,010	51.7	31,082	66.2	-14.5
Missing Econ.Disadv.	88	1.4	0	0.0	-	66	0.9	0	0.0	-

Note: Economically disadvantaged status was stated as "missing" if a student could not be matched to the PEIMS database. For 2003–2004, ethnicity, gender, and socioeconomic status were "missing" for 88 AP students because they could not be matched to the PEIMS database.
Sources: Chancery (SMS): 2003–2004 and 2007–2008; PEIMS: 2003 and 2007 Fall Data Submission.

or 2.4 percent for which ethnicity, gender, and socioeconomic status could not be matched to the PEIMS data base. Regarding gender, the percentage of females participating in the Pre-AP program was disproportionate compared to the percentage of males (54.8 percent and 42.7 percent, respectively). African American, Hispanic, male, and socioeconomically disadvantaged students were underrepresented when comparing the percentage of students in these groups to the respective district enrollment for 2003–2004 by -8.1, -10.3, -8.0, and -18.5, respectively.

A total of 34,778 students enrolled in Pre-AP courses (6–12) during the 2007–2008 school year. Of the 34,778 Pre-AP students, 28.0 percent were African American, 5.5 percent were Asian, 53.9 percent were Hispanic, 0.1 percent were Native American, and 12.6 percent were White. Regarding gender, the percentage of females enrolled in Pre-AP classes (53.1 percent) exceeded the percentage of males (46.9 percent) (Table 3). For 2007–2008, African American, Hispanic, male, and socioeconomically disadvantaged students were underrepresented when comparing the percentage of students in these groups to the respective district enrollment for 2007–2008 by -2.7, -2.5, -3.7, and -4.7.

When comparing the Pre-AP student demographic profile to that of the district prior to the initative and subsequently for 2007–2008, the differentials for minority and socioeconomically disadvantaged students have declined substantially. For example, prior to the initiative, there was a difference of -10.3 percentage points for Hispanic students. That figure has decreased to only -2.5 percentage points by 2007–2008. Therefore, the district is moving in a positive direction with regard to equity in the Pre-AP program.

A total of 6,279 students enrolled in AP courses (9–12) during the 2003–2004 school year. This consisted of 25.0 percent African American, 10.5 percent Asian, 39.9 percent Hispanic, 0.1 percent Native American, and 23.1 percent White. There were 88 students or 1.4 percent for which ethnicity, gender, and socioeconomic status could not be matched to the PEIMS data base. Regarding gender, there was a disproportionate percentage of females participating in the AP program compared to males (58.2 percent and 40.4 percent, respectively) (Table 4).

When comparing the differential of AP enrollment to the district enrollment by gender and student group for 2003–2004, an under-representation occurs for African American, Hispanic, male and economically disadvantaged students (-6.5, -12.7, -9.9 and -11.6 percentage points, respectively).

A total of 7,754 students enrolled in AP courses (grades 9–12) during the 2007–2008 school year. The predominant racal/ethnic groups for the AP program consisted of Hispanic (42.6 percent) and African American (25.3 percent) students. Enrollment of female students exceeded male students (57.3 percent and 42.7 percent, respectively) (Table 4).

When comparing the differential of AP enrollment to the district for both 2003–2004 and 2007–2008 by student group, an under-representation occurs for African American (-6.5 and -6.2), Hispanic (-12.7 and -11.3), male (-9.9 and -7.3), and economically disadvantaged (-11.6 and -14.5) students, respectively.

When comparing the differential of AP enrollment for 2003–2004 and 2007–2008, there is clearly a decrease for minority students and male students; however, there was an increase in the differential for economically disadvantaged students from -11.6 in 2003–2004 to -14.5 in 2007–2008. When comparing the differential of Pre-AP and AP enrollment to the district enrollment, Asian, White, and female students were over-represented for 2003–2004 and 2007–2008.

Table 5 compares the number and percentage of students enrolled in the Pre-AP and AP program by grade level to that of the district. The highest levels of Pre-AP enrollment occurred in sixth (54.1 percent), seventh (58.1 percent), and eighth grades (58.8 percent), reflecting the implementation of the *AP Initiative*. As part of the *AP Initiative*, all middle school students (grades 6–8) that have passed the previous year's TAKS Reading assessment were automatically placed into Pre-AP English. Rosters were created to ensure that students were automatically enrolled. Since HISD continues to endorse the open enrollment policy for all Pre-AP and AP courses, creating a roster would in no way preclude any student from participating. When comparing the overall district enrollment (grades 6–12) to Pre-AP enrollment, 40.2 percent of the students in the district were enrolled in at least one Pre-AP class. The highest levels of AP enrollment occurred in grades 12 (30.6 percent) and 11 (27.7 percent). Overall, only 16.5 percent of the students in the district were enrolled in at least one AP class.

Figure 1 depicts the percentage of students in the district that were enrolled in at least one Pre-AP and/or AP course from 2003–2004 to 2007–2008. The trend clearly indicates that there has been an overall increase in the percentage of students in the district who enrolled in at least one Pre-AP course from 23.8 percent in 2003–2004 to 40.2 percent in 2007–2008. Similarly, the percentage of students in the district that enrolled in at least one AP course increased from 12.9 percent in 2003–2004 to 16.5 percent in 2007–2008.

What were the completion rates of 2007–2008 HISD students in AP courses?

During the 2007–2008 school year, the percentages of students completing AP courses

Table 5. Comparison of Pre-AP and AP Course Enrollment, and Percent of District Enrolled, by Grade Level for 2007–2008

Grade	Pre-AP Enrollment	District Enrollment (6–12)	% District Enrollment (Pre-AP)	AP Enrollment	District Enrollment (9–12)	% District Enrollment (AP)
6	7,001	12,950	54.1			
7	7,819	13,461	58.1			
8	7,735	13,164	58.8			
9	4,659	16,868	27.6	277	16,868	1.6
10	3,634	11,275	32.2	2,011	11,275	17.8
11	2,747	9,844	27.9	2,722	9,844	27.7
12	1,183	8,978	13.2	2,744	8,978	30.6
Total	**34,778**	**86,540**	**40.2**	**7,754**	**46,965**	**16.5**

Note: There were 81 eighth grade students enrolled in AP Spanish Language classes. Total enrollment in AP does not include middle school students.
Source: Chancery Student Management System: 2007–2008; PEIMS: 2007 Fall Data Submission.

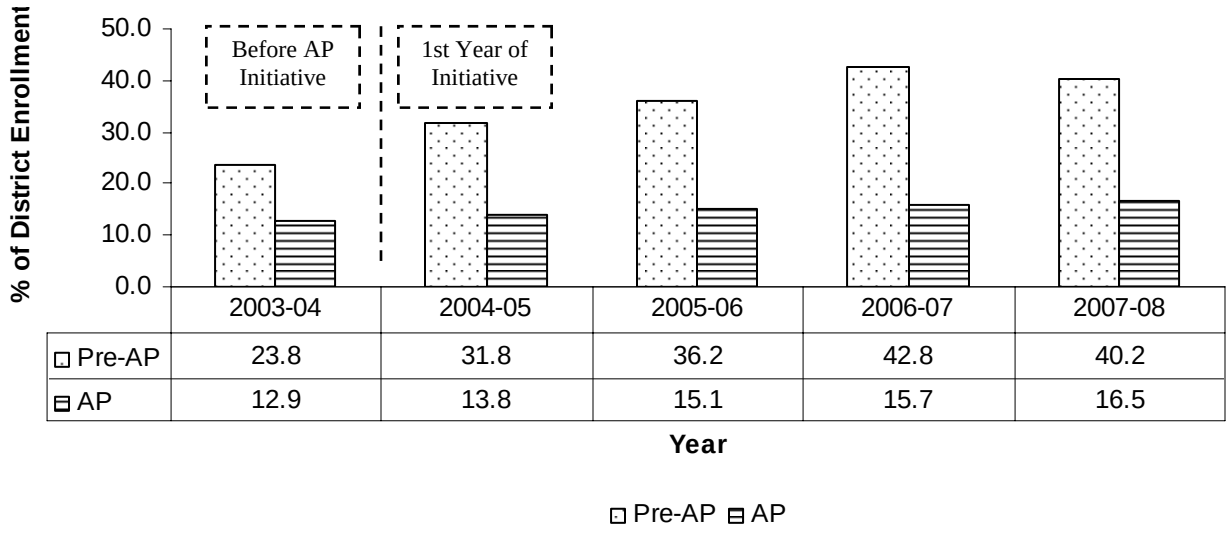

Figure 1. Percent of students in the district enrolled in at least one Pre-AP and/or AP course, 2003–2004 to 2007–2008.
Sources: SASI: 2003–2004 to 2005–2006; Chancery (SMS): 2006–2007 and 2007–2008.

districtwide and by campus were analyzed. **Table 6** summarizes the number of students enrolled in AP courses districtwide, the number eligible to complete, the number completing, and the percent completing disaggregated by student group. The number of students eligible to complete AP courses consists of those enrolled in the second semester of a two-semester course and/or those enrolled in a one semester course. Completion percentages are based on the number of students eligible to complete and the number completing. Since students may have been enrolled in more than one AP class, the number taking reflects duplicated student counts. Districtwide, a total of 25,674 students enrolled in AP courses and 13,053 or 95.4 percent of those enrolled completed the course. The percentage of students completing AP courses by

Table 6. AP Course Completion by Race/Ethnicity, Gender, and Economic Status, 2007–2008 (duplicated)

	# Enrolled	# Eligible to Complete	# Completing	% Completing
All Students	25,674	13,686	13,053	95.4
African American	5,686	3,025	2,850	94.2
Asian	3,691	2,003	1,962	98.0
Hispanic	10,134	5,315	4,982	93.7
Native American	20	9	9	100.0
White	6,143	3,334	3,250	97.5
Male	10,932	5,789	5,447	94.1
Female	14,742	7,897	7,606	96.3
Economically Disadvantaged	12,309	6,418	6,014	93.7
Missing Econ. Disadvantaged	104	78	71	91.0

Note: The number of students eligible to complete AP courses consists of those enrolled in the second semester of a two-semester course and/or those enrolled in a one semester course. Completion percentages are based on the number eligible to complete and the number completing. Economically disadvantaged status was stated as "missing" if a student could not be matched to the PEIMS database.
Source: Chancery Student Management System: 2007–2008; PEIMS: 2007 Fall Data Submission.

student group ranged from 93.7 percent for Hispanic students to 100.0 percent for Native American students. A summary of the completion rates by campus and disaggregated by student group is provided in **Appendix A**. Out of 30 high schools, the enrollment in AP classes for all students ranged from 40 at Eastwood Academy to 4,247 at Bellaire High School. Completion rates for all students ranged from 81.8 percent at Mirabeau B. Lamar High School to 100.0 percent at Kashmere High School and Eastwood Academy.

Albert Sidney Johnston, Sidney Lanier, and Jane Long Middle Schools had eighth grade students enrolled in AP Spanish Language classes during the 2007–2008 academic year. These schools are included in Appendix A. Enrollment ranged from 31 for Lanier Middle School to 79 for Long Middle School. Completion rates for all middle school students ranged from 68.8 percent at Lanier to 95.8 percent at Johnston middle schools.

Table 7 summarizes the correspondence between AP examinations and AP courses completed for high school students during the 2007–2008 school year. Districtwide, 64.3 percent of the students completed AP courses and took the corresponding AP examination. Regarding race/ethnicity, 50.7 percent of African American students completed AP courses and took the corresponding AP examination. Alternatively, 80.1 percent of Asian students completed AP courses and took the corresponding AP examination. Regarding gender, the percentage of males slightly exceeded the percentage of females that completed the AP course and took the corresponding AP examination (65.1 percent and 63.8 percent, respectively). Approximately 62.7 percent of students who were classified as economically disadvantaged completed the AP course and subsequently took the corresponding AP examination. Districtwide, 41.4 percent of the students who took the corresponding AP exam scored a 3 or higher.

What was the level of participation for 2007–2008 HISD students in AP subject tests?

Districtwide Participation

During the 2007–2008 school year, a total of 5,425 high school students participated in taking AP examinations, which included 1,567 freshmen/sophomores, 1,943 juniors, 1,688

Table 7. AP Course Completion with Corresponding Examination by Race/Ethnicity, Gender, and Economic Status, 2007–2008

	# of AP Courses Completed	# Taking Corresponding Exam	% Completing Course and Taking Corresponding Exam	Examination with scores of 3–5	
				N	%
All Students	13,053	8,396	64.3	3,480	41.4
African American	2,850	1,445	50.7	266	18.4
Asian	1,962	1,571	80.1	1,032	65.7
Hispanic	4,982	3,087	62.0	730	23.6
Native American	9	5	55.6	0	0.0
White	3,250	2,288	70.4	1,452	63.5
Male	5,447	3,544	65.1	1,608	45.4
Female	7,606	4,852	63.8	1,872	38.6
Economically Disadvantaged	6,014	3,771	62.7	783	20.8
Missing Econ. Disadvantaged	71	34	47.9	9	26.5

Note: A completed course was based on a passing grade for the second semester of a two-semester course and/or those enrolled in a one semester course. Students who could not be matched were excluded from the analysis (only 8,396 exams could be matched from a total of 10,172). Economically disadvantaged status was stated as "missing" if a student could not be matched to the PEIMS database.
Source: Chancery Student Management System: 2007–2008; PEIMS: 2007 Fall Data Submission; AP data File: 2008

seniors, and 227 with an unspecified grade level. For the 2007–2008 school year, 30 high schools and five middle school participated. A total of 97 eighth grade students from Thomas "Stonewall" Jackson, Johnston, Long, Lanier, and Sharpstown middle schools took the AP Spanish Language exam.

Table 8 summarizes the level of participation and performance for HISD from 1998 through 2008 for middle and high schools. Over the past eleven years, the number of participants, total exams, and the total exams scoring 3 or higher, have increased annually. Alternatively, the percentage of students scoring 3 or higher has decreased from 69.9 percent in 1998 to 43.8 percent in 2008 as the number of students tested has increased. The number of participating high schools has remained fairly constant since 2004 with at least 30 campuses. Middle College for Technology and Careers closed in 2007, and therefore, the number of campuses dropped from 31 in 2006 to 30 in 2007. The number of participating middle schools has increased from one school in 2004 to five schools in 2008. The number of middle school participants, total exams, and exams scored at 3 or higher has also increased from 2004 to the present. There has been a decline in the percentage of exams scored at 3 or higher from 100 percent in 2004 to 77.3 percent in 2008 as more students are tested.

Participation by Gender, Race/Ethnicity, and Economic Status

Table 9 compares the gender, racial/ethnic composition, and economic status of HISD AP test-takers from 2006 to 2008. In order to provide disaggregated data, the College Board AP data files were used. Of importance is that the data files are not updated once the extract is made. Therefore, small differences exist when comparing the total number of test takers, exams taken, and exams scoring 3 or higher to the more recent reports. By comparing Tables 8 and 9, the differences in the two data sources may be seen more clearly. Over the past three years, the number of students taking AP tests increased from 4,336 to 5,447, representing a 25.6 percent increase. Moreover, participation increased by 13.2 percent from 2007 to 2008 (Table 9). The percentage of female participants was higher than males from 2006 to 2008. Among Asian and White test-takers, the percentage of participation decreased by 1.3 and 3.6 percentage points, respectively over the past three years. Alternatively, the percentage of

Table 8. Summary of Participation and Performance on AP Exams by Campus and Level, 1998–2008

	Middle School AP Results				High School AP Results				Campuses	
Year	Total Test-Takers	Total Exams	Total Exams 3–5	% of Exams 3–5	Total Test-Takers	Total Exams	Total Exams 3–5	% of Exams 3–5	# of High Schools in HISD	# of Middle Schools in HISD
1998					1,025	1,889	1,320	69.9	-	
1999					1,240	2,278	1,437	63.1	-	
2000					1,756	3,402	2,076	61.0	22	
2001					1,968	3,769	2,160	57.3	23	
2002					2,403	4,724	2,774	58.7	27	
2003					2,723	5,351	3,233	60.4	24	
2004	17	17	17	100.0	3,229	6,051	3,280	54.2	30	1
2005	19	19	17	89.5	3,853	7,169	3,522	49.1	30	1
2006	22	22	21	95.5	4,341	8,098	3,841	47.4	31	1
2007	48	48	37	77.1	4,812	9,088	4,304	47.4	30	2
2008	97	97	75	77.3	5,425	10,148	4,445	43.8	30	5

Source: College Board Reports, 1998–2008, 2008 College Board Middle School Supplement Report, and 2007 College Board Campus Report for Lanier Middle School.

Table 9. Comparison of HISD High School AP Test-Takers by Gender, Race/Ethnicity, and Economic Status, 2006–2008

Test-Takers	Total	Female	Male	African American	Asian	Hispanic	Native American	White	Econ. Disadv.
2006	4,336	2,549	1,787	689	608	1,769	6	987	2,250
Percent		59.0	41.0	15.9	14.0	40.8	0.1	22.8	51.6
2007	4,811	2,863	1,948	763	657	2,062	7	1,084	2,394
Percent		59.5	40.5	15.9	13.7	42.9	0.1	22.5	49.4
2008	5,447	3,199	2,248	980	694	2,404	9	1,046	2,899
Percent		58.7	41.3	18.0	12.7	44.1	0.2	19.2	53.2

Note: For 2008, 164 students did not state their ethnicity and 151 indicated "other," and economic status was not available for 64 students. For 2007, 107 students did not state their ethnicity and 131 indicated "other," and economic status was not available for 51 students. For 2006, 164 students did not state their ethnicity, 113 indicated "other," and economic status was not available for 65.
Source: AP Data Files: 2006, 2007, and 2008.

participation for African American, Hispanic, Native American, and economically disadvantaged students increased by 2.1, 3.3, 0.1, and 1.6 percentage points, respectively, from 2006 to 2008. Since one of the district's objectives was to increase underrepresented student group enrollment in test participation, the data indicate that this objective has been met for African American, Hispanic, and economically disadvantaged students; however, the proportion of African American, Hispanic, and economically disadvantaged students is still underrepresented when looking at the percentage taking AP courses and the percentage of these underrepresented groups enrolled in high school.

Figure 2 compares the percent of AP test-takers for each of the different racial/ethnic groups with scores of 3 or higher on at least one AP test from 2006–2008. For 2008, the percentage of students attaining a score of 3 or above on at least one AP test ranged from 0.1 percent for Native Americans to 39.4 percent for Hispanic students. The percentage of students scoring 3 or higher ranged from 0.1 percent for Native Americans to 34.7 percent for White students for 2007. Similarly, the percentage of

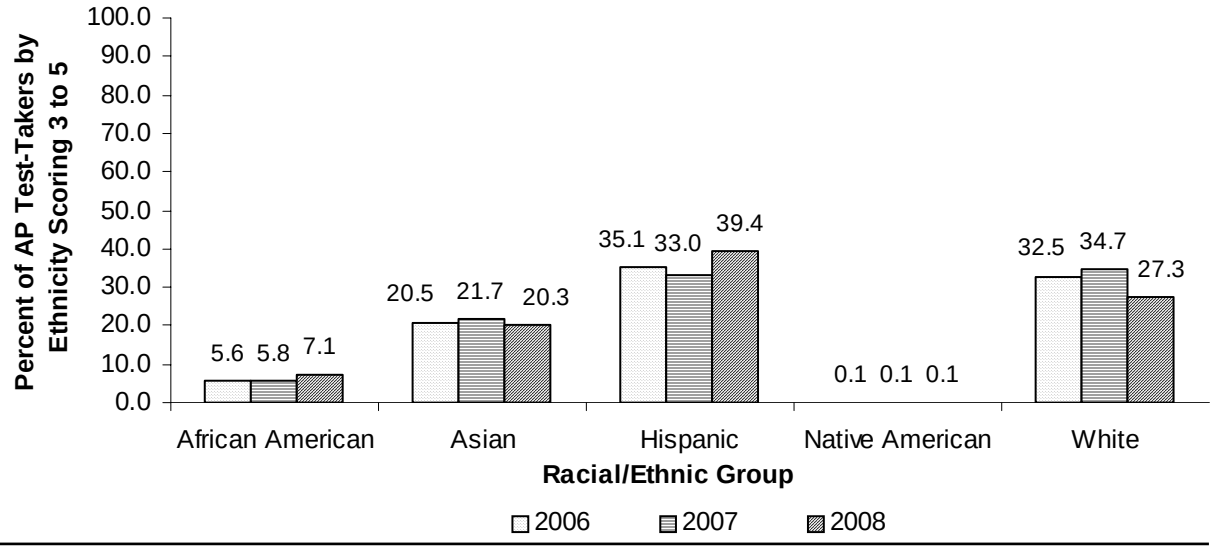

Figure 2. Percent of AP test-takers by ethnicity scoring 3 or higher on at least one AP exam, 2006– 2008.
Source: The College Board AP data files, 2006–2008.

students scoring 3 or higher in 2006 on at least one AP exam ranged from 0.1 percent for Native Americans to 35.1 percent for Hispanics. For 2006 and 2008, Hispanic students outperformed all other racial/ethnic groups, while White students outperformed all other racial/ethnic groups for 2007. Over the past three years, the percentage of African American and Hispanic students scoring 3 or more on at least one AP exam increased by 1.5 and 4.3 percentage points, respectively. Alternatively, performance for Asian and White students decreased by 0.2 and 5.2 percentage points, respectively.

Participation by Schools

A total of 30 high schools had students taking Advanced Placement examinations for the 2007–2008 school year. **Table 10** presents the participation of those students that took at least one AP exam based on grade level enrollment. There was considerable variation among the high schools with regard to participation, with sophomores reflecting the lowest levels (11.3 percent) and juniors with the highest levels (19.8 percent). For tenth grade students, percentages ranged from 0.0 percent at Jefferson Davis, Eastwood Academy, Ebbert Furr, and Evan Worthing high schools to 63.0 percent at Carnegie Vanguard High School. For juniors, the percentage was highest for Carnegie Vanguard High School with 84.0 percent. Eastwood Academy (0.0 percent) had the lowest participation rates for juniors. With regard to seniors, Michael DeBakey High School for Health Professions had the highest participation rate with 84.2 percent. The lowest participation rate, 0.0 percent, was found at Ross Sterling High School. The schools with the highest participation levels, Carnegie Vanguard and DeBakey were both Magnet schools that required testing as a basis for matriculation.

Table 10. 2008 Participation of Sophomores, Juniors, and Seniors in AP Tests

	% of Enrollment by Grade		
School	**10th**	**11th**	**12th**
Austin	7.3	20.2	19.0
Bellaire	23.4	43.9	44.9
Carnegie	63.0	84.0	50.7
Challenge	28.4	32.8	4.3
Chavez	28.2	28.1	17.2
Davis	0.0	10.5	16.3
DeBakey	5.4	42.3	84.2
Eastwood	0.0	0.0	20.3
Furr	0.0	6.3	9.3
Houston	0.2	15.8	9.7
HSLECJ	13.3	26.2	21.1
HSPVA	29.3	49.0	31.8
Jones	0.6	22.0	20.3
Jordan	17.1	7.7	12.1
Kashmere	9.8	9.6	21.3
Lamar	0.1	0.8	3.8
Lee	10.9	22.0	23.1
Madison	13.6	19.6	15.7
Milby	9.8	19.3	22.0
Reagan	6.1	15.4	17.5
Scarborough	5.7	12.4	14.2
Sharpstown	11.7	14.3	23.6
Sterling	10.1	8.2	0.0
Waltrip	6.6	17.0	16.0
Washington	1.9	10.2	6.4
Westbury	15.9	23.1	23.3
Westside	34.4	40.6	33.8
Wheatley	2.6	15.9	12.3
Worthing	0.0	11.6	10.1
Yates	1.4	11.7	9.8
HISD	**11.3**	**19.8**	**18.9**

Note: Only high school participation is reflected. Grade level was not specified for 234 students.

Source: College Board AP Data File, 2008

During 2007–2008, what were the mean scores of HISD students on the AP subject tests?

Table 11 compares the mean scores by subject for HISD students with the mean scores of global test-takers. The global data reflect totals for both public and private school students. The subject examinations for HISD are reported only in areas where five or more students were tested. As a result, the number of students taking the examination may appear different from the overall total and/or from the school total. For 2008, Latin: Literature was the only subject examination in which HISD students did not participate.

In 2008, students in HISD scored a mean of 3 or higher on a five-point scale on 10 of the 33 AP subject examinations where five or more

Table 11. Global Mean Scores Compared to HISD

Subject	2008 N	HISD 2008	HISD 2007	Global 2008
Art: History	51	2.37	2.06	2.79
Art: Studio Drawing	22	3.45	3.11	3.06
Art: Studio 2-D Design	22	2.64	3.74	3.10
Art: Studio 3-D Design	3	*	-	2.88
Biology	309	2.96	2.69	2.68
Calculus AB	423	2.86	2.61	3.03
Calculus BC	189	3.67	3.93	3.72
Chemistry	220	2.14	2.78	2.80
Chinese Lang. & Culture	54	4.78	4.81	4.76
Comp. Sci. A	82	2.77	3.24	2.89
Comp. Sci AB	5	4.80	3.11	3.52
Econ. Micro	79	3.25	3.70	3.04
Econ. Macro	528	2.68	3.13	2.78
English Lang.&Comp.	1,642	2.15	2.22	2.82
Eng. Lit. & Comp.	1,052	2.33	2.40	2.84
Environmental Science	162	2.32	2.45	2.72
European Hist.	61	2.05	3.53	2.70
French: Lang.	74	2.30	2.31	2.80
French: Lit.	11	1.55	2.69	3.22
German: Lang.	9	3.22	3.84	3.25
Gov. Politics U.S.	688	2.35	2.41	2.64
Gov. Politics Comparative	3	*	*	3.03
Human Geog.	240	2.20	2.61	2.63
Italian Lang. & Culture	6	2.83	*	2.65
Japanese Lang. & Culture	15	2.73	3.40	3.66
Latin: Vergil	12	2.50	*	2.92
Latin: Lit.	-	-	2.82	3.08
Music Theory	54	2.43	3.72	3.17
Phys. B	210	2.66	2.96	2.88
Phys.C: Elec & Magnetism	10	3.10	3.85	3.49
Phys. C: Mech.	32	3.72	2.95	3.41
Psychology	163	3.25	3.83	3.13
Spanish: Lang	915	3.32	3.27	3.28
Spanish: Lit.	133	2.68	2.95	2.84
Statistics	206	2.40	2.70	2.86
U.S. History	1,302	2.00	2.11	2.57
World History	1,185	2.05	2.28	2.56

*Scores not reported for less than 5 students.
AP Subjects with highest levels of participation are in bold.

students were tested. Typically, a score of 3 qualifies a student to receive advanced placement or college credit. HISD students exceeded the global mean scores for 9 out of 33 subject examinations. These included: Art: Studio Drawing, Biology, Chinese Language & Culture, Computer Science AB, Economics: Micro, Italian Language & Culture, Physics C: Mechanics, Psychology, and Spanish: Language. Mean scores ranged from 1.55 in French Literature to 4.80 in Computer Science AB. English Language and Composition, English Literature and Composition, U.S. History and World History represented the four subject tests taken by the highest number of students (1,642, 1,052, 1,302, and 1,185. respectively); however, mean scores for these exams were lower than the global mean scores by 0.67, 0.51, 0.57, and 0.51, respectively. Advanced Placement tests characterized by having fewer than 10 participants included: Art: Studio 3-D Design, Computer Science AB, German Language, Government Politics: Comparative, and Italian Language and Culture.

For 2007, students in HISD scored a mean of 3 or higher on 15 of 33 AP subject examinations where five or more students were tested. Mean scores ranged from 2.06 in Art History to 4.81 in Chinese Language and Culture. When comparing AP subject tests for 2007 and 2008, mean scores increased in 7 out of 32 AP subject examinations where five or more students were tested.

Performance and Gender/Ethnicity

Appendix B summarizes the differential in AP subject test scores for HISD students by gender and race/ethnicity for 2008. When examining the differential in AP subject test scores by gender, males outperformed females on 17 of the 27 subjects for which both groups participated with at least five or more students in 2008. The mean differential ranged from –0.51 in History of Art to 1.06 in Microeconomics.

When examining the racial/ethnic differential between White and African American students, White students outperformed African American students in 19 of the 20

subject tests for which both groups participated in 2008. The mean differential ranged from -0.50 point in French Language to 2.25 points in Music Theory. When examining the differential between White students and Hispanic students, Hispanic students outperformed White students by 0.40 point in the Spanish Language test. White students outperformed Hispanic students on 23 out of 24 subject tests for which both groups participated. The mean differential between White and Hispanic students ranged from –0.40 in Spanish Language to 2.08 in Microeconomics.

Figure 3 compares the percentage of AP tests taken by high school students with scores of 3 or more by race/ethnicity and gender based upon the total number of AP tests taken disaggregated by student group for 2007 and 2008. When examining gender, 46.6 percent of males and 42.0 percent of females scored 3 or higher on the total number of AP subject tests taken by males and females, respectively, in 2008. In 2008, males exceeded the performance of females by 4.6 percentage points. Regarding gender, 52.1 percent of the males and 43.8 percent of the females scored 3 or higher based on the total number of AP subject tests taken by males and females, respectively, in 2007. In 2007, males exceeded the performance of females by 8.3 percentage points. When comparing 2007 to 2008, the percentage of males scoring 3 or higher on AP tests decreased from 52.1 percent to 46.6 percent; similarly, the percentage of females scoring 3 or higher on AP tests decreased by 1.8 percentage points over the past two years.

Regarding race/ethnicity, the percentages of exams with a score of 3 or above ranged from 18.9 percent for African American students to 67.3 for Asian students in 2008. For the previous year, the percentage of exams scored 3 or higher ranged from 17.7 percent for African American students to 71.6 percent for Asian students. Comparing 2007 to 2008, the percentage of exams taken by African American and Hispanic students scored 3 or higher increased by 1.2 and 2.6 percentage points, respectively. Alternatively, the percentage of exams taken by

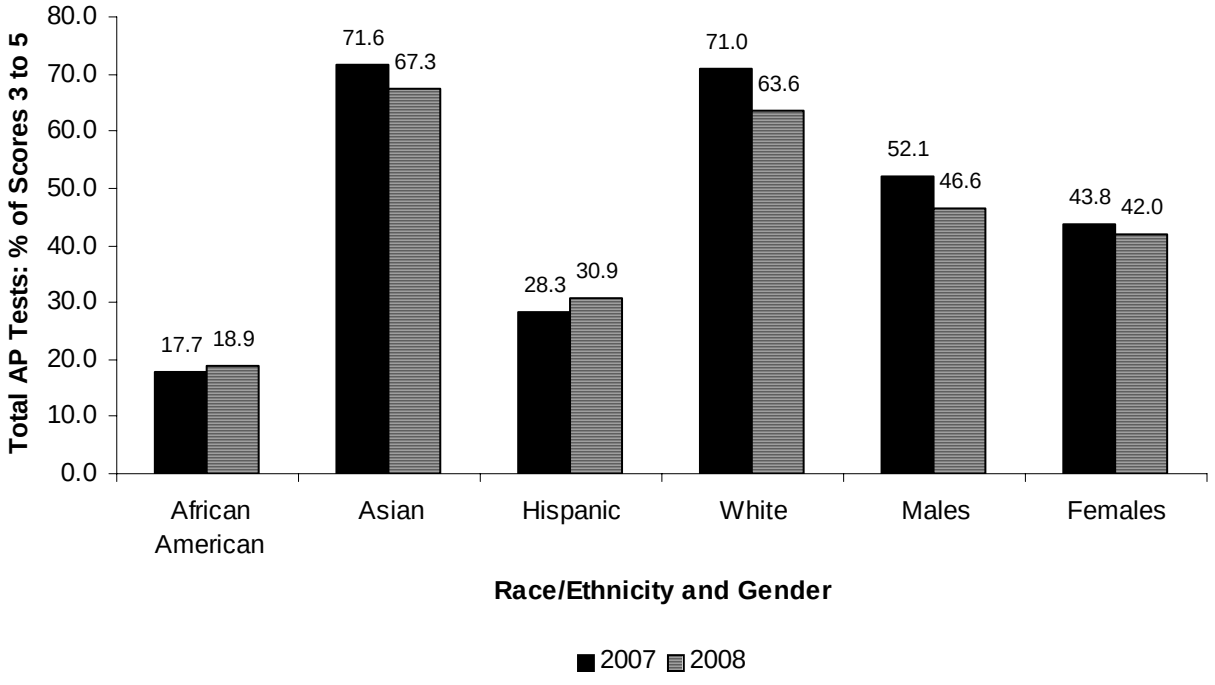

Figure 3. Percentage of AP tests scoring three or higher by race/ethnicity and gender, 2007 and 2008.
Source: The College Board AP data files, 2007 and 2008.

Asian and White students scored 3 or higher declined by 4.3 and 7.4 percentage points, respectively.

What percentage of students in HISD scored a 3 or better on AP subject tests for the past two years?

Appendix C summarizes the number of AP test-takers, the number of AP tests taken and the percentage of total examinations for which participants scored a 3 or higher by campus for 2007 and 2008. Typically, a score of 3 qualifies a student to receive advanced placement and/or college credit. For the 2008 school year, a total of 5,425 high school students took 10,148 AP exams and 43.8 percent earned a qualifying score of 3 or higher. For the 2007 school year, a total of 4,812 high school students took 9,088 AP exams. Out of the total 9,088 exams taken, 47.4 percent of the scores were 3 or higher. The number of test-takers and exams taken increased from 2007 to 2008, but the percentage of exams scoring 3 or higher declined 3.6 percentage points. When comparing district performance to that of the state in 2008, Texas AP test-takers outperformed district students by 2.7 percentage points for those exams scored at 3 or higher. However, global AP test-takers outperformed HISD AP test-takers by 14.0 percentage points and Texas AP test-takers by 11.3 percentage points.

For 2008, the number of high school students taking AP exams ranged from 12 at Eastwood Academy to 896 at Bellaire High School. The number of AP tests taken ranged from 12 at Eastwood Academy to 2,546 at Bellaire High School. The percentage of scores that were a 3 or higher by high school campus ranged from 0.0 percent at Sterling and Worthing High Schools to 84.2 percent at Lamar High School. At the state level, 46.5 percent of the AP scores were 3 or above, and six high school campuses exceeded the state percentage in 2008. There were ten campuses where fewer than 10 percent of the scores were 3 or above.

In 2008, there were five middle school campuses that administered the AP Spanish Language exam. A total of 97 students participated, and 77.3 percent of the exams were three or higher. The number of students participating ranged from 10 at Jackson and Sharpstown middle schools to 40 at Long Middle School. The percentage of exams scored at three or higher ranged from 70 percent at Long Middle School to 100.0 percent at Sharpstown Middle School. In 2007, only two middle schools participated in AP program, and this increased to five campuses in 2008.

Measures of AP success have typically focused on the percentage of students scoring 3 or higher. Although still used, this metric may be inflated, for example, by allowing only top students to test or participate in the AP program.

Alternatively, another measure involves centering on the participation in AP exams by school, without looking at the level of performance. This latter measure does examine equity with regard to access to AP courses and testing, but without taking into account the actual performance of the students, the level of excellence cannot be measured (College Board, AP Central, 2005). Therefore, a new measure of equity and excellence has been put forth by the College Board. It is calculated by taking the "percentage of students in a total population (school, district, state, etc.), who had a least one AP experience resulting in an exam score of 3 or higher" (College Board, AP Central, 2005).

Appendix D summarizes 2007 and 2008 AP performance based on the percentage of students enrolled in grades 10, 11, and 12 scoring 3 or higher on at least one AP exam by campus and the graduating class summary. For the former performance measure, 2008 students were required to score a 3 or higher during the 2008 AP administration. Alternatively, the graduating class summary shows the percentage by campus of twelfth grade students that scored 3 or higher at any point in their high school tenure. For 2008 tenth grade students, percentages ranged from 0.0 percent at Davis, Eastwood Academy, Ebbert Furr, Sam Houston, Jesse Jones, Kashmere, Ross Sterling, Booker T. Washington, Phillis Wheatley, Worthing, and Jack Yates High Schools, to 61.7 percent at Carnegie Vanguard

High School. For eleventh grade students, percentages ranged from 0.0 percent at Eastwood, Furr, Jones, Sterling, and Worthing High Schools to 100.0 percent at Lamar High School. For twelfth grade students, percentages ranged from 0.0 percent at Furr, Kashmere, Sterling, Wheatley, Worthing, and Yates High Schools, to 76.0 percent at DeBakey High School.

College Board summary data indicate that 100.0 percent of the graduating senior class attending Carnegie Vanguard, High School for Law Enforcement and Criminal Justice, and Lamar High School scored 3 or higher on at least one AP subject exam at some point in their high school tenure. Alternatively, none of the graduating seniors attending Furr or Kashmere, met this measure. This reflects an improvement over the previous year when six campuses did not have any graduating seniors score a 3 or higher during their high school tenure.

How has participation and performance on AP subject tests progressed from 1998 to 2008?

Appendix E summarizes the mean AP subject test scores from 1998–2008. Comparisons were made for subject tests that included at least three years of test data. Data from 2008 were compared to data from 1998, if scores were available for those years. If not, the differences were calculated by subtracting the year in which data were first available from the final year of data. If data were not available for 2008, a differential score was not calculated. Overall, scores have fluctuated slightly with mean score increases occurring in 9 examinations and decreases occurring in 22 out of 32 examinations. Differences ranged from -2.18 points in Government Politics: Comparative to 1.47 points in Computer Science AB. Decreases in the mean scores occurred for four of the AP subject tests related to the area of science. These included: Biology (-0.43), Chemistry (-0.55), Physics C: Electricity & Magnetism (-0.57), and Physics C: Mechanics (-.04). Computer Science AB and Spanish Language represent the subject areas for which a mean score of at least a 3.0 was maintained from 1998–2008. Overall, district mean scores have decreased from 3.20 to 2.45 over the past 10 years, but participation has increased from 1,025 test-takers in 1998 to 5,425 test-takers in 2008.

What was the number of AP Scholar Award Recipients?

Table 12 summarizes the number of AP Scholar Award Recipients by campus for the past two years. Total AP Scholars reflect the number of AP Scholar, AP Scholar with Honor, and AP Scholar with Distinction recipients as these are mutually exclusive categories. National AP Scholar award recipients meet the requirements for an AP Scholar with Distinction. For 2008, there were a total of 762 AP Scholar Award recipients from 18 campuses. HISD had 327 AP Scholars, 139 AP Scholars with Honor, 296 AP Scholars with Distinction, and 84 National AP Scholars. Out of the 18 campuses, Bellaire, Carnegie, DeBakey, HSPVA, and Westside High Schools had the greatest number of students who were AP Scholar recipients, and were the only campuses where one or more students earned the designation of National AP Scholar.

Carnegie, Robert E. Lee, and Charles Milby demonstrated the greatest increases in the number of AP Scholars when comparing 2007 to 2008 with 11, 11, and 13 scholar recipients, respectively. The largest decrease from 2007 to 2008 occurred for HSPVA where the number of AP scholarship recipients dropped by 24.

Out of 23 campuses, the number of AP Scholar Award Recipients increased on 10 campuses, decreased on 11 campuses, and there was no change on two campuses from 2007 to 2008.

How many teachers received Pre-AP and AP training in English, mathematics, and science for the past two years?

Table 13 summarizes the number of teachers receiving Pre-AP and/or AP training in English, mathematics, and science over the past two

Table 12. Number of AP Scholar Award Recipients by Campus, 2007 and 2008

School	AP Scholar		AP Scholar with Honor		AP Scholar with Distinction		Total AP Scholars		National AP Scholar	
	2007	2008	2007	2008	2007	2008	2007	2008	2007	2008
Austin	1	0	0	0	0	0	**1**	**0**	0	0
Bellaire	124	135	76	80	218	205	**418**	**420**	58	71
Carnegie	12	19	12	12	9	13	**33**	**44**	0	1
Challenge	3	0	0	0	0	0	**3**	**0**	0	0
Chavez	2	2	1	0	0	1	**3**	**3**	0	0
Davis	0	0	1	0	0	0	**1**	**0**	0	0
DeBakey	39	30	7	11	19	25	**65**	**66**	7	6
Eastwood	1	0	0	0	0	0	**1**	**0**	0	0
Furr	0	1	0	0	0	0	**0**	**1**	0	0
Houston	1	1	0	0	0	0	**1**	**1**	0	0
HSLECJ	5	3	3	2	0	0	**8**	**5**	0	0
HSPVA	31	18	13	5	16	13	**60**	**36**	2	2
Lamar	0	0	0	0	1	0	**1**	**0**	0	0
Lee	0	11	0	0	0	0	**0**	**11**	0	0
Madison	0	1	0	0	0	0	**0**	**1**	0	0
Milby	2	13	2	3	0	1	**4**	**17**	0	0
Reagan	0	4	0	0	0	0	**0**	**4**	0	0
Scarborough	1	1	0	1	0	0	**1**	**2**	0	0
Sharpstown	3	0	0	2	0	0	**3**	**2**	0	0
Waltrip	4	2	0	0	0	0	**4**	**2**	0	0
Washington	5	2	0	0	1	1	**6**	**3**	0	0
Westbury	3	3	1	1	0	2	**4**	**6**	0	0
Westside	87	81	25	22	34	35	**146**	**138**	9	4
HISD	**324**	**327**	**141**	**139**	**298**	**296**	**763**	**762**	**76**	**84**

Source: 2007 and 2008 College Board AP School Scholar Roster Report.
Note: Total AP Scholars reflect the number of AP Scholar, AP Scholar with Honor, and AP Scholar with Distinction recipients as these are mutually exclusive categories. National AP Scholar award recipients meet the requirements for an AP Scholar with Distinction.

years by academic level and content area. For the 2007–2008 school year, a total of 1,468 teachers were trained. English was the content area for which the greatest number of teachers were trained (n=599). In 2006–2007, a total of 1,519 teachers were trained, reflecting a 3.4 percent decline from 2007–2008.

How many high school campuses offered Pre-AP and AP courses in the four core content areas for 2003–2004 and 2008–2009?

It is important to examine equity across the district with regard to Pre-AP and AP course offerings. **Appendices F** and **G** summarize the list of campuses that offered or did not offer Pre-AP or AP courses in the four core content areas,

Table 13. Summary of Pre-AP and AP Training by Academic Level and Content Area

Content	Pre-AP HS Teachers		Pre-AP MS Teachers		AP Teachers		Totals	
	2006–07	2007–08	2006–07	2007–08	2006–07	2007–08	2006–07	2007–08
English	187	131	386	395	75	73	648	599
Mathematics	163	139	256	276	50	50	469	465
Science	153	116	218	211	31	77	402	404
Total	**503**	**386**	**860**	**882**	**156**	**200**	**1,519**	**1,468**

Source: Teacher training summaries were provided by AP Strategies, Inc.

as well as the Pre-AP and AP courses that were needed based on 2003–2004 and 2008–2009 data extractions.

Out of 29 high schools, a total of 22 or 75.9 percent offered at least one Pre-AP course in the four core content areas (English, mathematics, science, and social studies) during the 2003–2004 school year. Although it is important to examine course offerings, it is equally important to ensure that a full complement of Pre-AP courses are available to students so that there is vertical alignment of course offerings. For example, five of the 29 campuses did not offer Pre-AP Algebra I, although four of the five campuses had offered at least one Pre-AP course in mathematics. Likewise, Challenge High School offered at least one Pre-AP mathematics course, but did not offer Pre-AP Geometry during the 2003–2004 school year.

Out of 38 high schools, a total of 30 or 78.9 percent offered at least one Pre-AP course in the four core content areas (English, mathematics, science, and social studies) during the 2008–2009 school year. Four of the 30 campuses did not offer Algebra 1, although they had offered at least one Pre-AP course in mathematics. Likewise, one campus offered at least one Pre-AP mathematics course, but did not offer Pre-AP Geometry.

Out of the 29 high school campuses that were operational in both 2003–2004 and 2008–2009, a total of six campuses or 20.7 percent increased their Pre-AP course offerings so that at least one Pre-AP course was offered in the four core content areas. More specifically, Challenge, Eastwood, Jordan, Scarborough, Waltrip, and Wheatley did not offer at least one Pre-AP course in the four core content areas in 2003–2004. However, all six schools offered at least one Pre-AP course in the four core content areas by 2008–2009.

It is clearly important to offer the appropriate course prerequisites so that students will have a proper foundation. For 2008–2009, Pre-AP Pre-Calculus was not offered at Kashmere High School, but AP Calculus AB was offered for the fall. Mount Carmel Academy offered AP Calculus AB and AP Chemistry, but did not offer the prerequisite Pre-AP courses such as Algebra 2, Chemistry, and Pre-Calculus for the 2008–2009 school year. Scarborough High School offered AP Chemistry and AP Physics, but did not offer Pre-AP Chemistry or Pre-AP Physics in 2008–2009. Similarly, Sharpstown High School offered AP Physics B, but did not offer Pre-AP Physics. There were seven campuses that did not offer any Pre-AP social studies courses, and two campuses that did not offer any Pre-AP courses for 2008–2009.

Out of 37 high schools, a total of 19 or 51.4 percent offered at least one AP course in the four core content areas (English, mathematics, science, and social studies). Ninth Grade College Prep was not included because typically students do not begin taking AP courses until their sophomore or junior year. Of the 18 campuses that did not offer AP courses in the four core content areas, 15 did not offer an AP science course, 9 did not offer an AP mathematics course, 8 did not offer an AP English course, and 7 did not offer an AP social studies course.

Discussion

The overall goal of the *Advanced Placement Intiative* was to increase student achievement by continuing to raise academic expectations for all students. To accomplish this, the following objectives were established:

- Increase the number of students enrolled in Pre-Advanced Placement and Advanced Placement courses,
- Increase the number of students taking the AP examinations,
- Increase the number of students with a qualifying score of 3, 4 , or 5 on the AP examinations,
- Ensure that every high school offers Pre-AP and AP courses in all core subjects, and
- Report progress in meeting the goal and objectives for the district.

Based on the results presented, the district has met or has made progress in meeting the objectives. The number of students enrolled in Pre-AP and AP courses has increased when comparing 2003–2004 (before the AP initiative) to 2007–2008. However, due to a policy change

in 2006–2007, there was a decline in the number of students enrolled in Pre-AP courses when comparing enrollment levels for 2006–2007 and 2007–2008 because during the 2007–2008 school year, students were placed in the Pre-AP English courses based on their passing the TAKS Reading assessment from the previous year. In 2006–2007, all students were placed in Pre-AP English classes.

For the 2007–2008 school year, a total of 7,754 students were enrolled in AP courses, but the number of test-takers for the AP subject exams totaled 5,447 based on the AP data files. Moreover, in an analysis matching students who completed AP courses and then took the corresponding AP test, only 64.3 percent of the students who completed the AP course took the corresponding AP test. In addition, 3,304 Hispanic, 1,964 African American, and 1,664 White students enrolled in AP courses during the 2007–2008 academic year; however, only 2,404 Hispanic, 980 African American, and 1,046 White students were test-takers based upon self-reported demographic information. These data suggest that although there are students enrolling in AP courses, all are not taking the examinations.

Over the past ten years, participation in the AP program has increased dramatically from 1,025 high school students in 1998 to 5,425 high school students in 2008 based on the College Board Reports. Moreover, the diversity of test-takers has increased markedly over the past ten years. The percentage of African American AP test-takers increased from 11.3 percent in 1998 to 18.0 percent in 2008. Furthermore, Hispanic AP test-takers increased from 27.5 percent in 1998 to 44.1 percent in 2008. Although this is clearly a very positive step districtwide, there is a great deal of variability among campuses. Out of 30 high school campuses for which the College Board provided AP testing results, the percentage of seniors who took AP subject tests ranged from 0.0 percent at Sterling to 84.2 percent at DeBakey while the participation rate for juniors ranged from 0.0 percent at Eastwood to 84.0 percent at Carnegie. Since there are benefits such as scholarships, recognition, and college credit/advanced placement, a large number of students may be missing out on the opportunities afforded them by participating. According to a study released by the University of Texas at Austin (2007), "Students who placed out of introductory college courses and used their AP credits to take more advanced courses did better in those courses than non-AP students." To motivate students to take AP tests, counselors and school staff should incorporate the assistance of parents by educating them on the benefits, particularly, financial ones.

The data indicate that student performance has been declining from a longitudinal perspective. This may be attributed to the dramatic increase in the number and diversity of test-takers as well as policy decisions to eliminate any barriers to participation by implementing the *AP Initiative*. Over the past ten years, the mean test scores for the district have declined from 3.20 to 2.45. Although more students are participating, strategic planning is needed to increase the level of performance, especially on those campuses where both participation and performance are low. Components to increase student achievement would encompass strengthening professional development; implementing AP vertical teams to strengthen student preparation at the elementary, middle, and high school levels; conducting a needs assessment to ensure that sufficiently qualified science and mathematics teachers are available at all schools; providing opportunities for students to take prerequisite science and math courses; providing opportunities for students to attend "camp" experiences where they can intensively study for AP exams outside of the school; creating a college bound culture at the school; and monitoring the quality of the classes.

The State Board of Education mandated that students entering high school during the 2007–2008 school year are required to take four years of mathematics and four years of science under the Recommended High School Program. Since AP and IB science courses in Physics, Chemistry, Biology, and Environmental Science are options to fulfill the new requirements, it would behoove the district to strengthen

performance in science, since the data indicate that mean scores have declined in biology, chemistry, and Physics C-related AP exams. Conducting a needs assessment of staff and resources (labs and materials), should also be undertaken to ensure that a fourth course in science can be met at the high school level. Moreover, there are students that show AP potential based upon their PSAT scores, but lack the necessary prerequisites to take the advanced science or mathematics courses. In view of the changes in graduation requirements, additional opportunities to take prerequisite courses for these tenth grade students are needed. For example, at one HISD campus, students are able to take Pre-Calculus during the summer. At another campus, students are able to take an Algebra and Geometry block in ninth grade so that they can take more rigorous science and mathematics courses in high school.

Students require an educational foundation so that they are prepared to take advanced classes in high school. At the elementary level, a greater emphasis should be placed on critical and analytical thinking skills. To ensure equity across the district, middle and high schools should offer advanced courses in the four core areas so that students have a foundation onto which they can build. An analysis of the Pre-AP and AP courses offered during the fall of 2008 indicated that only 78.9 percent of high schools offered at least one Pre-AP course in the four core content areas, and 51.4 percent of high schools offered at least one AP course in the four core content areas. Furthermore, there were schools that offered AP courses, particularly in the science and mathematics areas, for which there were no prerequisite Pre-AP courses. Vertical teams within feeder patterns should be developed at the elementary, middle, and high school level to ensure a seamless transition and a strong educational foundation for all students in the district.

Issues pertaining to performance are more pronounced when looking at campus-level data. There are a few campuses for which participation and performance are high relative to other HISD campuses, such as Bellaire, Carnegie Vanguard, DeBakey High Schools, and HSPVA; however, campuses such as Eastwood, Furr, Jones, Kashmere, Scarborough, Sterling, Wheatley, Worthing, and Yates high schools had low levels of participation and performance. It is imperative that these schools emphasize professional development and work in vertical teams to strengthen the preparation of students in grades prior to taking AP courses and exams. Further, provide assistance to ensure that courses offered on the campus level follow the rigorous standards set forth by the Advanced Placement program.

Recommendations

1. Continue to identify successful efforts to promote participation and performance among students, especially economically disadvantaged students, by providing information to students and parents about the benefits of the AP program, which includes scholarships, recognition, and college credit/advanced placement.

2. To increase student achievement, continue to provide adequate and relevant professional development opportunities, especially in the area of science and mathematics. Additionally, strengthen the curriculum in middle school so that students have a strong educational foundation not only academically, but also with regard to the development of higher order thinking skills and time management skills.

3. On the campus level, monitor the students enrolled in AP courses and the students who subsequently take the AP subject examinations.

4. In order to promote equity and excellence, consideration should be given to creating opportunities for students to take prerequisite mathematics and science courses so that those showing ability or motivation in tenth grade have the necessary foundation to be successful and meet course requirements.

5. In order to promote equity across the district, consideration should be given to ensuring that secondary campuses offer Pre-AP and AP courses in the four core content areas and that course selections are verti cally aligned.

6. For campuses with low participation and performance rates, focus on the development of vertical teams (elementary, middle, and high school) so that student preparation is strengthened prior to taking AP courses and monitor the rigor of the courses.

7. For campuses with low performance rates, introduce interventions to help students develop study skills and provide opportunities for students to take prerequisite mathematics and science courses during the year in an accelerated block or during the summer of ninth and tenth grade. Share strategies and best practices for these interventions on the HISD website and with Professional Learning Communities.

8. For campuses with low participation rates, ensure that they are provided a list of students from AP Potential so that these students can be enrolled in the appropriate AP classes.

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APPENDIX A
AP Course Completion by Race/Ethnicity, Gender, Economic Status, and Campus

School Name	Group	# Enrolled	# Eligible to Complete	# Completing	% Completing
Austin High School	All Students	718	385	352	91.4
Austin High School	African American	56	32	30	93.8
Austin High School	Hispanic	653	348	317	91.1
Austin High School	Native American	3	2	*	*
Austin High School	White	6	3	3	100.0
Austin High School	Female	480	264	251	95.1
Austin High School	Male	238	121	101	83.5
Austin High School	Non-Econ Disadv	64	33	32	97.0
Austin High School	Econ Disadv	652	350	318	90.9
Austin High School	Economic Status Missing	2	2	*	*
Bellaire High School	All Students	4,247	2,384	2,356	98.8
Bellaire High School	African American	181	104	100	96.2
Bellaire High School	Asian	1,846	1,020	1,009	98.9
Bellaire High School	Hispanic	354	205	202	98.5
Bellaire High School	Native American	1	*	*	*
Bellaire High School	White	1,865	1,055	1,045	99.1
Bellaire High School	Female	2,258	1,275	1,268	99.5
Bellaire High School	Male	1,989	1,109	1,088	98.1
Bellaire High School	Non-Econ Disadv	3790	2,125	2,106	99.1
Bellaire High School	Econ Disadv	452	256	247	96.5
Bellaire High School	Economic Status Missing	5	3	3	100.0
Carnegie Vanguard	All Students	1,101	531	505	95.1
Carnegie Vanguard	African American	195	92	80	87.0
Carnegie Vanguard	Asian	44	22	22	100.0
Carnegie Vanguard	Hispanic	316	153	147	96.1
Carnegie Vanguard	White	546	264	256	97.0
Carnegie Vanguard	Female	544	260	245	94.2
Carnegie Vanguard	Male	557	271	260	95.9
Carnegie Vanguard	Non-Econ Disadv	777	379	367	96.8
Carnegie Vanguard	Econ Disadv	324	152	138	90.8
Challenge HS	All Students	165	74	70	94.6
Challenge HS	African American	31	14	12	85.7
Challenge HS	Asian	15	7	7	100.0
Challenge HS	Hispanic	71	32	30	93.8
Challenge HS	White	48	21	21	100.0
Challenge HS	Female	101	46	43	93.5
Challenge HS	Male	64	28	27	96.4
Challenge HS	Non-Econ Disadv	92	41	40	97.6
Challenge HS	Econ Disadv	73	33	30	90.9

APPENDIX A (continued)
AP Course Completion by Race/Ethnicity, Gender, Economic Status, and Campus

School Name	Group	# Enrolled	# Eligible to Complete	# Completing	% Completing
Chavez High School	All Students	975	462	460	99.6
Chavez High School	African American	87	41	41	100.0
Chavez High School	Asian	81	38	38	100.0
Chavez High School	Hispanic	779	372	370	99.5
Chavez High School	White	28	11	11	100.0
Chavez High School	Female	579	277	276	99.6
Chavez High School	Male	396	185	184	99.5
Chavez High School	Non-Econ Disadv	163	75	74	98.7
Chavez High School	Econ Disadv	803	380	379	99.7
Chavez High School	Economic Status Missing	9	7	7	100.0
Davis High School	All Students	599	321	294	91.6
Davis High School	African American	43	22	20	90.9
Davis High School	Asian	5	3	3	100.0
Davis High School	Hispanic	543	292	267	91.4
Davis High School	White	8	4	4	100.0
Davis High School	Female	369	191	176	92.1
Davis High School	Male	230	130	118	90.8
Davis High School	Non-Econ Disadv	57	30	26	86.7
Davis High School	Econ Disadv	541	290	267	92.1
Davis High School	Economic Status Missing	1	1	1	100.0
DeBakey HSHP	All Students	1,299	696	695	99.9
DeBakey HSHP	African American	393	210	209	99.5
DeBakey HSHP	Asian	563	304	304	100.0
DeBakey HSHP	Hispanic	257	134	134	100.0
DeBakey HSHP	Native American	4	2	2	100.0
DeBakey HSHP	White	82	46	46	100.0
DeBakey HSHP	Female	786	430	429	99.8
DeBakey HSHP	Male	513	266	266	100.0
DeBakey HSHP	Non-Econ Disadv	786	426	426	100.0
DeBakey HSHP	Econ Disadv	513	270	269	99.6
Eastwood Academy	All Students	40	20	20	100.0
Eastwood Academy	African American	2	1	1	100.0
Eastwood Academy	Hispanic	38	19	19	100.0
Eastwood Academy	Female	26	13	13	100.0
Eastwood Academy	Male	14	7	7	100.0
Eastwood Academy	Non-Econ Disadv	8	4	4	100.0
Eastwood Academy	Econ Disadv	32	16	16	100.0
Furr High School	All Students	205	112	107	95.5
Furr High School	African American	17	10	10	100.0
Furr High School	Asian	5	3	3	100.0
Furr High School	Hispanic	173	93	88	94.6
Furr High School	White	10	6	6	100.0
Furr High School	Female	124	67	63	94.0
Furr High School	Male	81	45	44	97.8
Furr High School	Non-Econ Disadv	53	29	27	93.1
Furr High School	Econ Disadv	147	80	78	97.5
Furr High School	Economic Status Missing	5	3	2	66.7

APPENDIX A (continued)
AP Course Completion by Race/Ethnicity, Gender, Economic Status, and Campus

School Name	Group	# Enrolled	# Eligible to Complete	# Completing	% Completing
Sam Houston High School	All Students	698	354	332	93.8
Sam Houston High School	African American	21	11	10	90.9
Sam Houston High School	Asian	10	5	5	100.0
Sam Houston High School	Hispanic	653	332	311	93.7
Sam Houston High School	White	14	6	6	100.0
Sam Houston High School	Female	401	197	186	94.4
Sam Houston High School	Male	297	157	146	93.0
Sam Houston High School	Non-Econ Disadv	112	55	51	92.7
Sam Houston High School	Econ Disadv	569	289	271	93.8
Sam Houston High School	Economic Status Missing	17	10	10	100.0
HSLECJ	All Students	607	358	319	89.1
HSLECJ	African American	127	73	66	90.4
HSLECJ	Asian	10	6	6	100.0
HSLECJ	Hispanic	417	250	222	88.8
HSLECJ	White	53	29	25	86.2
HSLECJ	Female	383	229	209	91.3
HSLECJ	Male	224	129	110	85.3
HSLECJ	Non-Econ Disadv	170	107	100	93.5
HSLECJ	Econ Disadv	437	251	219	87.3
HSPVA	All Students	1237	722	706	97.8
HSPVA	African American	239	149	143	96.0
HSPVA	Asian	55	29	29	100.0
HSPVA	Hispanic	149	87	84	96.6
HSPVA	White	794	457	450	98.5
HSPVA	Female	835	487	477	97.9
HSPVA	Male	402	235	229	97.4
HSPVA	Non-Econ Disadv	1118	655	641	97.9
HSPVA	Econ Disadv	119	67	65	97.0
Johnston Middle School	All Students	49	24	23	95.8
Johnston Middle School	Hispanic	49	24	23	95.8
Johnston Middle School	Female	30	15	15	100.0
Johnston Middle School	Male	19	9	8	88.9
Johnston Middle School	Non-Econ Disadv	10	5	5	100.0
Johnston Middle School	Econ Disadv	39	19	18	94.7
Jones High School	All Students	269	144	138	95.8
Jones High School	African American	210	112	107	95.5
Jones High School	Asian	3	1		
Jones High School	Hispanic	56	31	31	100.0
Jones High School	Female	183	100	96	96.0
Jones High School	Male	86	44	42	95.5
Jones High School	Non-Econ Disadv	69	37	37	100.0
Jones High School	Econ Disadv	198	105	99	94.3
Jones High School	Economic Status Missing	2	2	2	100.0
Jordan High School	All Students	776	439	425	96.8
Jordan High School	African American	447	255	248	97.3
Jordan High School	Asian	2	1	1	100.0
Jordan High School	Hispanic	324	182	175	96.2
Jordan High School	White	3	1	1	100.0

APPENDIX A (continued)
AP Course Completion by Race/Ethnicity, Gender, Economic Status, and Campus

School Name	Group	# Enrolled	# Eligible to Complete	# Completing	% Completing
Jordan High School	Female	526	298	286	96.0
Jordan High School	Male	250	141	139	98.6
Jordan High School	Non-Econ Disadv	268	154	148	96.1
Jordan High School	Econ Disadv	507	284	276	97.2
Jordan High School	Economic Status Missing	1	1	1	100.0
Kashmere High School	All Students	122	61	61	100.0
Kashmere High School	African American	117	59	59	100.0
Kashmere High School	Hispanic	5	2	2	100.0
Kashmere High School	Female	95	47	47	100.0
Kashmere High School	Male	27	14	14	100.0
Kashmere High School	Non-Econ Disadv	21	11	11	100.0
Kashmere High School	Econ Disadv	100	49	49	100.0
Kashmere High School	Economic Status Missing	1	1	1	100.0
Lamar High School	All Students	97	44	36	81.8
Lamar High School	African American	16	5	5	100.0
Lamar High School	Asian	6	3	2	66.7
Lamar High School	Hispanic	18	8	7	87.5
Lamar High School	White	57	28	22	78.6
Lamar High School	Female	38	16	15	93.8
Lamar High School	Male	59	28	21	75.0
Lamar High School	Non-Econ Disadv	70	33	28	84.8
Lamar High School	Econ Disadv	26	10	7	70.0
Lamar High School	Economic Status Missing	1	1	1	100.0
Lanier Middle School	All Students	31	16	11	68.8
Lanier Middle School	Hispanic	29	15	10	66.7
Lanier Middle School	White	2	1	1	100.0
Lanier Middle School	Female	13	7	7	100.0
Lanier Middle School	Male	18	9	4	44.4
Lanier Middle School	Non-Econ Disadv	10	5	5	100.0
Lanier Middle School	Econ Disadv	21	11	6	54.5
Lee High School	All Students	708	347	308	88.8
Lee High School	African American	86	43	37	86.0
Lee High School	Asian	144	76	72	94.7
Lee High School	Hispanic	432	204	176	86.3
Lee High School	Native American	1			
Lee High School	White	45	24	23	95.8
Lee High School	Female	387	189	168	88.9
Lee High School	Male	321	158	140	88.6
Lee High School	Non-Econ Disadv	112	57	53	93.0
Lee High School	Econ Disadv	589	285	252	88.4
Lee High School	Economic Status Missing	7	5	3	60.0
Long Middle School	All Students	79	39	37	94.9
Long Middle School	Hispanic	79	39	37	94.9
Long Middle School	Female	55	27	26	96.3
Long Middle School	Male	24	12	11	91.7
Long Middle School	Non-Econ Disadv	4	2	2	100.0
Long Middle School	Econ Disadv	75	37	35	94.6

APPENDIX A (continued)
AP Course Completion by Race/Ethnicity, Gender, Economic Status, and Campus

School Name	Group	# Enrolled	# Eligible to Complete	# Completing	% Completing
Madison High School	All Students	852	447	427	95.5
Madison High School	African American	510	268	257	95.9
Madison High School	Asian	20	10	10	100.0
Madison High School	Hispanic	320	168	159	94.6
Madison High School	White	2	1	1	100.0
Madison High School	Female	521	281	273	97.2
Madison High School	Male	331	166	154	92.8
Madison High School	Non-Econ Disadv	224	118	110	93.2
Madison High School	Econ Disadv	621	324	313	96.6
Madison High School	Economic Status Missing	7	5	4	80.0
Milby High School	All Students	1173	634	604	95.3
Milby High School	African American	45	26	26	100.0
Milby High School	Asian	28	16	14	87.5
Milby High School	Hispanic	1087	585	557	95.2
Milby High School	Native American	2	1	1	100.0
Milby High School	White	11	6	6	100.0
Milby High School	Female	660	354	343	96.9
Milby High School	Male	513	280	261	93.2
Milby High School	Non-Econ Disadv	316	171	160	93.6
Milby High School	Econ Disadv	855	461	443	96.1
Milby High School	Economic Status Missing	2	2	1	50.0
Reagan High School	All Students	760	398	365	91.7
Reagan High School	African American	34	20	16	80.0
Reagan High School	Asian	14	8	7	87.5
Reagan High School	Hispanic	680	355	328	92.4
Reagan High School	White	32	15	14	93.3
Reagan High School	Female	446	237	219	92.4
Reagan High School	Male	314	161	146	90.7
Reagan High School	Non-Econ Disadv	157	86	79	91.9
Reagan High School	Econ Disadv	601	310	285	91.9
Reagan High School	Economic Status Missing	2	2	1	50.0
Scarborough High School	All Students	340	186	175	94.1
Scarborough High School	African American	72	38	35	92.1
Scarborough High School	Asian	7	3	3	100.0
Scarborough High School	Hispanic	170	90	86	95.6
Scarborough High School	White	91	55	51	92.7
Scarborough High School	Female	192	105	102	97.1
Scarborough High School	Male	148	81	73	90.1
Scarborough High School	Non-Econ Disadv	95	55	52	94.5
Scarborough High School	Econ Disadv	242	128	120	93.8
Scarborough High School	Economic Status Missing	3	3	3	100.0

APPENDIX A (continued)
AP Course Completion by Race/Ethnicity, Gender, Economic Status, and Campus

School Name	Group	# Enrolled	# Eligible to Complete	# Completing	% Completing
Sharpstown High School	All Students	463	243	214	88.1
Sharpstown High School	African American	118	59	56	94.9
Sharpstown High School	Asian	82	45	39	86.7
Sharpstown High School	Hispanic	238	126	108	85.7
Sharpstown High School	White	25	13	11	84.6
Sharpstown High School	Female	259	138	127	92.0
Sharpstown High School	Male	204	105	87	82.9
Sharpstown High School	Non-Econ Disadv	97	48	38	79.2
Sharpstown High School	Econ Disadv	362	194	175	90.2
Sharpstown High School	Economic Status Missing	4	1	1	100.0
Sterling High School	All Students	150	71	67	94.4
Sterling High School	African American	98	46	43	93.5
Sterling High School	Asian	2	1	1	100.0
Sterling High School	Hispanic	46	22	21	95.5
Sterling High School	White	4	2	2	100.0
Sterling High School	Female	100	48	46	95.8
Sterling High School	Male	50	23	21	91.3
Sterling High School	Non-Econ Disadv	35	15	15	100.0
Sterling High School	Econ Disadv	113	54	50	92.6
Sterling High School	Economic Status Missing	2	2	2	100.0
Waltrip High School	All Students	1,262	652	622	95.4
Waltrip High School	African American	93	49	44	89.8
Waltrip High School	Asian	32	16	16	100.0
Waltrip High School	Hispanic	680	349	330	94.6
Waltrip High School	White	457	238	232	97.5
Waltrip High School	Female	740	386	371	96.1
Waltrip High School	Male	522	266	251	94.4
Waltrip High School	Non-Econ Disadv	675	348	335	96.3
Waltrip High School	Econ Disadv	586	303	286	94.4
Waltrip High School	Economic Status Missing	1	1	1	100.0
Washington High School	All Students	745	371	363	97.8
Washington High School	African American	462	231	224	97.0
Washington High School	Asian	22	11	11	100.0
Washington High School	Hispanic	182	90	89	98.9
Washington High School	Native American	2	1	1	100.0
Washington High School	White	77	38	38	100.0
Washington High School	Female	319	158	156	98.7
Washington High School	Male	426	213	207	97.2
Washington High School	Non-Econ Disadv	389	193	186	96.4
Washington High School	Econ Disadv	354	176	175	99.4
Washington High School	Economic Status Missing	2	2	2	100.0

APPENDIX A (continued)
AP Course Completion by Race/Ethnicity, Economic Status, and Campus

School Name	Group	# Enrolled	# Eligible to Complete	# Completing	% Completing
Westbury High School	All Students	1041	594	529	89.1
Westbury High School	African American	450	267	240	89.9
Westbury High School	Asian	74	43	36	83.7
Westbury High School	Hispanic	408	225	199	88.4
Westbury High School	White	109	59	54	91.5
Westbury High School	Female	610	346	325	93.9
Westbury High School	Male	431	248	204	82.3
Westbury High School	Non-Econ Disadv	365	211	187	88.6
Westbury High School	Econ Disadv	676	383	342	89.3
Westside High School	All Students	3769	2007	1935	96.4
Westside High School	African American	582	310	291	93.9
Westside High School	Asian	614	328	322	98.2
Westside High School	Hispanic	798	419	402	95.9
Westside High School	Native American	7	3	3	100.0
Westside High School	White	1768	947	917	96.8
Westside High School	Female	2030	1088	1054	96.9
Westside High School	Male	1739	919	881	95.9
Westside High School	Non-Econ Disadv	2753	1480	1435	97.0
Westside High School	Econ Disadv	996	511	485	94.9
Westside High School	Economic Status Missing	20	16	15	93.8
Wheatley High School	All Students	358	181	151	83.4
Wheatley High School	African American	271	137	119	86.9
Wheatley High School	Asian	3	2		
Wheatley High School	Hispanic	78	38	28	73.7
Wheatley High School	White	6	4	4	100.0
Wheatley High School	Female	196	98	89	90.8
Wheatley High School	Male	162	83	62	74.7
Wheatley High School	Non-Econ Disadv	105	55	47	85.5
Wheatley High School	Econ Disadv	251	126	104	82.5
Wheatley High School	Economic Status Missing	2			
Worthing High School	All Students	110	55	53	96.4
Worthing High School	African American	106	53	51	96.2
Worthing High School	Asian	2	1	1	100.0
Worthing High School	Hispanic	2	1	1	100.0
Worthing High School	Female	82	41	40	97.6
Worthing High School	Male	28	14	13	92.9
Worthing High School	Non-Econ Disadv	47	23	22	95.7
Worthing High School	Econ Disadv	61	30	29	96.7
Worthing High School	Economic Status Missing	2	2	2	100.0

APPENDIX A (continued)
AP Course Completion by Race/Ethnicity, Economic Status, and Campus

School Name	Group	# Enrolled	# Eligible to Complete	# Completing	% Completing
Yates High School	All Students	629	314	293	93.3
Yates High School	African American	577	288	270	93.8
Yates High School	Asian	2	1	1	100.0
Yates High School	Hispanic	50	25	22	88.0
Yates High School	Female	374	182	165	90.7
Yates High School	Male	255	132	128	97.0
Yates High School	Non-Econ Disadv	249	124	119	96.0
Yates High School	Econ Disadv	374	184	168	91.3
Yates High School	Economic Status Missing	6	6	6	100.0

Source: Chancery Student Management System: 2007–2008; PEIMS: 2007 Fall Data Submission.

APPENDIX B
AP TEST SCORE ETHNIC AND GENDER DIFFERENTIALS, 2008

Subject	Male-Female	White-Af.Am.	White-Hisp.
Art: Studio Art-2-D Design	-0.30	N/A	1.19
Art: Studio Art-3-D Design	N/A	N/A	N/A
Art: Studio Art-Drawing	-0.33	N/A	0.31
Biology	0.12	1.51	1.60
Calculus AB	0.17	0.92	1.11
Calculus BC	0.33	0.98	0.81
Chemistry	0.10	0.24	1.07
Chinese Language & Culture	-0.25	N/A	N/A
Computer Science A	0.14	0.94	N/A
Computer Science AB	N/A	N/A	N/A
Economics: Macroeconomics	0.40	1.16	1.28
Economics: Microeconomics	1.06	N/A	2.08
English Language & Composition	0.02	1.39	1.22
English Literature & Composition	-0.04	1.47	1.28
Environmental Science	0.37	1.40	1.54
European History	0.56	0.43	0.57
French Language	-0.24	-0.50	0.68
French Literature	N/A	N/A	N/A
German Language	N/A	N/A	N/A
Government & Politics: Comparative	N/A	N/A	N/A
Government & Politics: U.S.	0.21	1.42	1.60
History of Art	-0.51	N/A	0.54
Human Geography	0.09	1.14	1.32
Italian Language & Culture	N/A	N/A	N/A
Japanese Language & Culture	-1.00	N/A	N/A
Latin: Vergil	N/A	N/A	N/A
Music Theory	-0.19	2.25	1.07
Physics B	0.64	1.53	1.71
Physics C - Electricity & Magnetism	N/A	N/A	N/A
Physics C - Mechanics	N/A	N/A	N/A
Psychology	-0.02	1.57	0.79
Spanish Language	-0.36	1.48	-0.40
Spanish Literature	0.16	N/A	0.25
Statistics	0.61	0.80	1.67
United States History	0.18	1.21	1.03
World History	0.30	1.35	1.28

Note: Differential scores are not reported for exams with less than five students.

APPENDIX C

Number of Test-Takers, AP Exams Taken and Percentage of Exams Scoring 3–5 by Campus,

	2007			2008		
School	**N of Students Taking AP Exams**	**N of Exams Taken**	**% of Exams Scored 3–5**	**N of Students Taking AP Exams**	**N of Exams Taken**	**% of Exams Scored 3–5**
High Schools						
Austin	154	236	8.9	238	369	17.3
Bellaire	920	2,501	82.6	896	2,546	80.6
Carnegie	132	254	62.2	171	339	61.1
Challenge	56	63	54.0	82	95	47.4
Chavez	341	578	20.6	474	673	23.0
Davis	141	175	28.6	100	191	15.7
DeBakey	211	462	70.8	192	450	80.9
Eastwood	3	7	*	12	12	8.3
Furr	59	102	17.6	32	51	15.7
Houston	189	301	2.7	122	196	7.7
HSLECJ	93	143	41.3	95	159	31.4
HSPVA	180	400	69.3	183	288	57.3
Jones	57	87	0.0	78	123	0.8
Jordan	77	113	2.7	107	117	10.3
Kashmere	16	23	0.0	40	47	2.1
Lamar	67	67	80.6	38	38	84.2
Lee	126	257	14.4	183	362	29.6
Madison	249	301	6.0	240	337	2.4
Milby	206	358	29.1	249	503	23.7
Reagan	149	223	11.2	130	197	29.9
Scarborough	44	61	14.8	56	103	9.7
Sharpstown	92	168	21.4	151	248	21.8
Sterling	57	63	1.6	45	45	0.0
Waltrip	79	159	28.9	162	312	22.8
Washington	48	82	35.4	38	72	25.0
Westbury	131	226	11.9	281	487	18.7
Westside	777	1,457	52.4	846	1,556	45.1
Wheatley	63	99	1.0	84	110	2.7
Worthing	48	63	3.2	41	50	0.0
Yates	46	58	1.7	59	72	1.4
HISD High Schools	**4,812**	**9,088**	**47.4**	**5,425**	**10,148**	**43.8**
Texas	135,130	246,096	47.5	147,241	270,466	46.5
Global	1,464,254	2,533,431	59.3	1,580,821	2,736,445	57.8
Jackson Middle				10	10	80.0
Johnston Middle	31	31	77.4	24	24	79.2
Lanier Middle	17	17	76.5	13	13	76.9
Jane Long Middle				40	40	70.0
Sharpstown Middle				10	10	100.0
HISD Middle Schools	**48**	**48**	**77.4**	**97**	**97**	**77.3**

*Scores are not reported for less than 5 students.

Source: The College Board Reports, 2007 and 2008; The College Board Middle School Supplement Report, 2008; The College Board Campus Report for Lanier Middle School, 2007.

APPENDIX D

2007 and 2008 AP Performance Based on Percentage of Student Enrollment and Graduating Class Summary

School Name	% of 10th Grade		% of 11th Grade		% of 12th Grade		% of Graduating Class	
	2007	2008	2007	2008	2007	2008	2007	2008
Austin	0.2	3.0	1.1	5.9	3.3	7.7	10.9	8.8
Bellaire	22.6	18.9	37.3	35.8	41.2	36.3	55.8	49.2
Carnegie	28.9	61.7	50.7	68.7	34.7	65.9	66.7	100.0
Challenge	13.0	15.2	14.0	14.7	2.5	3.2	16.3	46.0
Chavez	3.9	8.3	8.3	8.1	5.8	6.4	17.8	18.1
Davis	0.2	0.0	8.9	0.6	3.0	6.8	14.4	16.0
DeBakey	41.7	4.4	62.1	38.2	73.0	76.0	90.2	81.5
Eastwood	0.0	0.0	0.0	0.0	0.0	1.7	0.0	1.7
Furr	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Houston	0.2	0.0	0.2	1.1	0.7	1.3	5.1	4.5
HSLECJ	0.0	28.6	0.0	41.0	0.0	42.9	0.0	100.0
HSPVA	9.0	11.5	27.3	27.5	44.3	24.6	56.9	39.8
Jones	0.0	0.0	0.0	0.0	0.0	0.7	1.1	0.7
Jordan	0.7	2.3	0.0	0.4	0.3	1.6	4.1	10.4
Kashmere	0.0	0.0	0.0	1.1	0.0	0.0	3.0	0.0
Lamar	0.5	50.0	0.8	100.0	5.3	75.0	6.9	100.0
Lee	0.2	3.2	2.6	10.8	4.8	11.7	5.9	13.0
Madison	0.0	0.2	0.8	0.2	2.8	1.6	3.9	2.3
Milby	3.6	2.9	9.9	8.4	4.0	10.5	9.1	18.3
Reagan	1.0	3.0	3.1	2.7	2.3	9.6	11.1	15.2
Scarborough	0.0	0.6	1.5	1.8	1.5	1.7	3.0	2.9
Sharpstown	0.5	2.7	2.3	4.9	5.4	8.8	11.1	12.9
Sterling	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
Waltrip	0.6	2.8	3.7	7.7	2.7	4.6	5.6	8.9
Washington	4.6	0.0	6.6	4.0	19.1	2.5	23.4	4.0
Westbury	1.4	3.5	1.2	6.9	2.2	6.0	2.7	8.4
Westside	15.3	15.8	17.8	17.1	27.9	24.4	40.5	39.7
Wheatley	0.0	0.0	0.5	0.4	0.0	0.0	0.0	0.9
Worthing	0.0	0.0	0.5	0.0	0.0	0.0	0.4	0.5
Yates	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.4

Note: Results do not include data for students enrolled in ninth grade or lower. The percentage of enrollment by grade measures the students enrolled in grades 10, 11, and 12 who scored 3 or higher on at least one AP exam during the 2007–2008 school. The Graduating Class Summary shows what percentage of students in grade 12 scored a 3 or higher at any point in their high school years. Each school's enrollment counts were submitted by its AP Coordinator when placing the school's order for AP exams.
Source: 2007 and 2008 College Board Reports.

APPENDIX E

HISD Mean Scores by AP Subject Test, 1998–2008

Subject	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Diff.
Total AP Test-Takers	1,025	1,240	1,756	1,968	2,403	2,723	3,229	3,853	4,341	4,812	5,425	4,400
Art: History	*	*	*	1.55	3.16	3.72	3.84	3.21	3.54	2.06	2.37	0.82
Art: Studio Drawing	3.58	3.27	*	3.79	3.20	2.42	3.55	3.63	2.94	3.11	3.45	-0.13
Art: Studio General	*	-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Art: Studio 2-D Design	±	±	*	*	2.33	3.40	3.50	2.58	3.56	3.75	2.64	0.31
Art: Studio 3-D Design	±	±	-	-	-	-	-	-	-	-	*	N/A
Biology	3.39	3.57	3.26	3.18	3.14	2.84	3.09	2.73	3.04	2.69	2.96	-0.43
Calculus AB	2.79	2.73	2.96	2.89	2.97	3.06	2.85	2.51	2.70	2.60	2.86	0.07
Calculus BC	3.04	2.93	3.26	3.25	3.46	3.58	3.69	3.70	3.74	3.91	3.67	0.63
Chemistry	2.69	2.81	3.24	2.25	2.88	2.57	2.96	3.11	3.00	2.78	2.14	-0.55
Chin. Lang. & Culture	±	±	±	±	±	±	±	±	±	4.81	4.78	N/A
Comp. Sci. A	*	2.30	2.05	2.64	2.65	2.77	2.87	2.86	3.00	3.22	2.77	0.47
Comp. Sci AB	*****	**-**	**3.33**	**3.00**	**3.75**	**3.00**	*****	*****	**3.00**	**3.00**	**4.80**	1.47
Econ. Micro	3.80	3.38	3.02	2.41	2.78	3.00	3.04	3.37	3.31	3.68	3.25	-0.55
Econ. Macro	3.49	3.84	3.57	3.83	3.79	3.68	3.43	3.43	3.06	3.13	2.68	-0.81
Eng. Lang.&Comp.	3.11	2.95	2.58	2.55	2.52	2.49	2.37	2.20	2.06	2.22	2.15	-0.96
English Lit.&Comp.	3.06	2.67	2.80	2.80	2.73	2.73	2.62	2.36	2.30	2.39	2.33	-0.73
Environmental Sci.	-	1.09	1.36	1.19	1.78	1.38	2.49	2.52	2.12	2.45	2.32	1.23
European Hist.	2.91	2.78	3.04	2.51	2.97	2.73	3.56	2.65	3.44	3.53	2.05	-0.86
French: Lang.	3.10	3.19	2.36	2.66	2.89	2.58	2.29	2.31	2.55	2.31	2.30	-0.8
French: Lit.	*	*	3.17	*	3.33	2.86	2.67	2.53	1.90	2.69	1.55	-1.62
German: Lang.	2.60	3.83	2.88	4.00	4.06	2.20	3.65	3.31	4.07	3.84	3.22	0.62
Gov. Politics U.S.	3.09	2.75	2.73	2.85	2.86	2.76	2.56	2.30	2.19	2.41	*	N/A
Gov. Politics Comp	3.43	2.50	2.42	2.38	*	*	*	1.88	2.50	*	2.35	-2.18
Human Geog.	±	±	-	4.38	3.43	3.94	4.06	3.03	3.64	2.61	2.20	-1.23
International Eng. Lang.	-	-	-	-	*	-	-	-	-	-	-	N/A
Italian Language	±	±	±	±	±	±	-	-	*	*	2.83	N/A
Japan. Lang. & Culture	±	±	±	±	±	±	±	±	±	3.40	2.73	N/A
Latin: Vergil	-	*	*	-	-	*	2.75	*	2.62	*	2.50	-0.25
Latin: Lit.	-	*	-	-	1.00	3.00	*	3.60	1.00	2.82	-	N/A
Music Theory	3.77	3.79	3.92	4.14	3.87	4.23	3.81	3.70	3.49	3.72	2.43	-1.34
Phys. B	1.67	1.56	2.15	2.70	2.77	3.20	2.55	2.52	2.39	2.96	2.66	0.99
Phys.C: Elec& Mag.	3.67	3.75	2.80	2.00	4.10	4.06	3.67	3.85	4.16	3.85	3.10	-0.57
Phys. C: Mech.	3.76	4.20	2.47	2.67	3.38	3.77	4.28	3.35	3.71	2.95	3.72	-0.04
Psychology	3.40	3.16	2.77	2.33	2.00	3.00	3.63	3.27	3.26	3.83	3.25	-0.15
Spanish: Lang	**4.09**	**4.24**	**4.23**	**4.37**	**3.96**	**4.22**	**4.01**	**3.59**	**3.95**	**3.26**	**3.35**	-0.77
Spanish: Lit.	2.92	3.20	3.22	3.23	3.06	2.82	2.70	2.81	2.81	2.95	2.68	-0.24
Statistics	4.15	4.50	4.00	3.83	3.61	3.10	2.79	2.82	2.79	2.70	2.40	-1.75
U.S. History	2.45	2.36	2.20	2.13	2.24	2.16	2.38	2.13	2.30	2.11	2.00	-0.45
World History	±	±	-	-	2.67	3.03	2.45	2.48	2.17	2.28	2.05	-0.62
District	3.20	3.04	2.98	2.92	2.91	2.97	2.81	2.63	2.58	2.58	2.45	-0.75

*Scores are not reported for less than five students. A dash (-) indicates no test-takers, ± indicates the exam was not administered and N/A was reported when differentials were not calculated.
Note: Subject Tests in bold reflect areas for which mean scores were at least a 3.0 from 1998–2008.
Source: College Board Reports, 1998–2008. Data reflect the most current results for high school test-takers.

APPENDIX F

Summary of Campuses Offering Pre-AP Courses in the Four Core Content Areas

	Offered Pre-AP Courses in the Four Core Content Areas		Pre-AP Courses Needed	
	2003–04	2008–09	2003–04	2008–09
Austin	Yes	Yes		
Bellaire*	Yes	Yes		
Carnegie	Yes	Yes		
Challenge	No	Yes	Geom. & Chem.	Alg. I
Chavez	Yes	Yes	Physics	
Davis	Yes	Yes		
DeBakey	Yes	Yes†	Alg. I	Alg I.
East Early College	-	No		Science and SS
Eastwood	No	Yes	Math, Science, and SS	
Empowerment College	-	No		Alg. I, Eng. I, Biology and SS
Furr	Yes	Yes		
Houston Math/Sci/Tech.	-	Yes		
HSLECJ	Yes	Yes		
HSPVA	Yes	Yes	Alg. I	Alg. I
International High School	-	Yes		
Jones	Yes	Yes		
Jordan HS for Careers	No	Yes	Alg. I, Alg. II, Geom., and Pre-Calc.	Alg. I
Kashmere	Yes	Yes	Alg. I and Pre-Calc.	Pre-Calc.
Lamar*	No	No	English, Math, and SS	
Lee	Yes	Yes		
Liberty	-	No		No courses offered
Madison	Yes	Yes		
Milby	Yes	Yes		
Mount Carmel Academy	-	No		Alg. 2, Pre-Calc., Chem., & SS
Ninth Grade College Prep	-	Yes		Geom.
North Houston Early College	-	No		Alg. 2 and SS
REACH Charter	-	No		No courses offered
Reagan	Yes	Yes		
Scarborough	No	Yes	SS	Chem. and Physics
Sharpstown	Yes	Yes	Alg. I	Physics
Sterling	Yes	Yes		
Waltrip*	No	Yes	English, Math, Science, & SS	
Washington	Yes	Yes		
Westbury	Yes	Yes		
Westside	Yes	Yes		
Wheatley	No	Yes	Science and SS	
Worthing	Yes	Yes	Pre-Calc.	
Yates	Yes	Yes		

*Bellaire and Lamar offer International Baccalaureate Courses in English, Math, Science, and Social Studies. Waltrip offered International Baccalaureate Courses in 2003–2004. Note: SS=Social Studies

†DeBakey offers Pre-AP Social Studies and English 1B for the second semester (waiver for the first semester).

Source: SASI: 2003–2004; Chancery Student Management System: 2008

APPENDIX G

Summary of Campuses Offering AP Courses in the Four Core Content Areas

	Offered AP Courses in the 4 Core Content Areas		Offered AP Calculus		AP Courses Needed	
	2003–04	2008–09	2003–04	2008–09	2003–04	2008–09
Austin	Yes	Yes	Yes	Yes	E	
Bellaire*	No	Yes	Yes	Yes		
Carnegie	Yes	Yes	Yes	Yes		
Challenge	No	No	No	No	E & M	M and S
Chavez	Yes	Yes	Yes	Yes		
Davis	Yes	Yes	Yes	Yes		
DeBakey	Yes	Yes	Yes	Yes		
East Early College	-	No	-	No	-	E, M, S, & SS
Eastwood	No	No	No	No	E, M, & S	E, M, & S
Empowerment College	-	No	-	Yes	-	E & SS
Furr	No	No	Yes	Yes	S	S
Houston Math/Sci/Tech.	-	Yes	-	Yes	-	
HSLECJ	No	No	Yes	Yes	S	S
HSPVA	Yes	Yes	Yes	Yes		
International High School	-	No	-	No	-	E, M, S, & SS
Jones	Yes	No	Yes	No		M
Jordan HS for Careers	No	No	Yes	Yes	S	S
Kashmere	No	No	Yes	Yes	S	S
Lamar*	No	No	Yes	Yes	E & SS	E, S, & SS
Lee	Yes	Yes	Yes	Yes		
Liberty	-	No	-	No	-	E, M, S, & SS
Madison	Yes	Yes	Yes	Yes		
Milby	Yes	Yes	Yes	Yes		
Mount Carmel Academy	-	Yes	-	Yes	-	
North Houston Early College	-	No	-	No	-	E, M, S, & SS
REACH Charter	-	No	-	No	-	E, M, S, & SS
Reagan	No	Yes	Yes	Yes	S	
Scarborough	No	Yes	Yes	Yes	S	
Sharpstown	Yes	Yes	Yes	Yes		
Sterling	No	No	Yes	Yes	S	
Waltrip*	No	Yes	Yes	Yes	E & S	
Washington	Yes	Yes	Yes	Yes		
Westbury	Yes	Yes	Yes	Yes		
Westside	Yes	Yes	Yes	Yes		
Wheatley	No	No	No	No	M, S, & SS	M & S
Worthing	No	No	Yes	Yes	S	S
Yates	No	No	No	No	M & S	S

Note: E=English, M=mathematics, S=science, and SS=Social Studies

*Bellaire and Lamar offer International Baccalaureate Courses in English, Math, Science, and Social Studies. Waltrip offered International Baccalaureate Courses in 2003–2004.

Source: SASI: 2003–2004; Chancery Student Management System: 2008