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Practices Utilized in Selected Texas Early College High Schools to Promote Academic Success: A Student Viewpoint

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by

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Dedication

This dissertation is dedicated to my God, my Savior, and my family. Without their support none of this would be possible.

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Practices Utilized in Selected Texas Early College High Schools to Promote Academic Success: A Student Viewpoint

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Early college high schools are programs created by collaborations between secondary public education and institutions of higher education to address the challenge of increasing the number of traditionally underserved students (i.e. minorities, low socioeconomic status, and first generation to college) in institutions of higher education. Students in early college high schools are able to graduate from the school with a high school diploma and an associate's degree, or 60 hours of transferrable college credit (Jobs for the Future, 2007). The institutional strategies utilized in these collaborative initiatives that pursue, as a main goal, promotion of high school and higher education, student retention and success should be investigated so that other educational settings may adopt these practices to further enhance educational opportunities for all students. A more in-depth understanding of how early college high schools contribute to the success of students who are traditionally underserved in the United States education system is needed. It is imperative to identify specific, evidence based, effective institutional strategies that early college high schools utilize that contribute to student success and retention in order to determine common trends and practices that are utilized by these institutions based on evidence from the available data.

This study utilized a mixed methods design, using both quantitative and qualitative research methods, to determine which effective retention and success

strategies are common to selected Texas early college high schools. Quantitative analysis was used to determine if there is a statistically significant difference between the selected early college high schools and other traditional high schools within their districts regarding academic achievement on state assessments, retention, and college course completion rates. The qualitative analysis aspect of the study was implemented through the use of anonymous surveys administered to students, student focus groups, and reviews of institutional documents of selected early college high schools. This qualitative data was analyzed to determine the common strategies and practices that are utilized to promote retention, academic achievement on state assessments, and college course completion rates on the selected campuses.

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Chapter 1

General Introduction

The graduation rate of public secondary education students has been a challenge for the education system of the United States for years. Although there has been some improvement in the rate since 1960, the results cannot be viewed as exemplary. According to the National Center for Educational Statistics' Digest of Education Statistics, United States public secondary schools have a 47.4% completion rate (NCES, 2007). Similarly, it is reported that in 2006 the dropout rate for Hispanic students was 21.1% and for African American students the rate was 10.1 percent. For all races the annual dropout rate was 9.3%. Since 1960, the rate for all of these groups has declined, however it has not reached an acceptable level (NCES, 2007).

The enrollment rates of minority students have also challenged institutions of higher education. While there have been efforts made by many institutions of higher education to increase the numbers of minority students in an attempt to increase the diversity of their campuses, the percentages of minority students that have completed high school and are enrolled on college campuses remains to be improved. In 2006, of the students that completed high school, only 55.5 % of African American students and 57.9 % of Hispanic students enrolled in an institution of higher education (NCES, 2007).

Different institutional initiatives have been attempted to increase the opportunities for access to higher education for all students. Programs such as Advanced Placement, Dual Enrollment, and Middle College have increased the opportunities for students to obtain college credit while enrolled in high school. One of the most recent programs created to provide access and opportunity for traditionally underserved populations in the

Unites States education system is the Early College High School. Early college high schools allow students to combine both high school and higher education curriculum and graduate with a high school diploma and an associate's degree or up to sixty hours of transferrable college credit. Interestingly, early college high schools focus on students that have been traditionally underserved in the United States education system. Traditionally underserved students include students that are financially disadvantaged, racial minorities, and first–generation individuals who are not represented in colleges and universities in proportion to their representation in the K-12 educational system or in society at large (Bragg, Kim, & Rubin, 2005, p.6). The success rates of traditionally underserved students in early college high schools have been shown to be significantly higher than the same groups that are enrolled in traditional public secondary education.

The Early College High Schools Initiative follows the direction of several core principles. The core principles of the Early College High School Initiative are:

- Core Principle 1: Early college schools are committed to serving students underrepresented in higher education.
- Core Principle 2: Early college schools are created and sustained by a local education agency, a higher education institution, and the community, all of whom are jointly accountable for student success.
- Core Principle 3: Early college schools and their higher education partners and community jointly develop an integrated academic program so all students earn one to two years of transferable college credit leading to college completion.

- Core Principle 4: Early college schools engage all students in a comprehensive support system that develops academic and social skills as well as the behaviors and conditions necessary for college completion.
- Core Principle 5: Early college schools and their higher education and community partners work with intermediaries to create conditions and advocate for supportive policies that advance the early college movement. (Jobs for the Future, 2008)

Early college high schools are built upon the foundation of a strong partnership between a high school and an institution of higher education. The institution of higher education can be a two-year community college or a four- year institution. The model for this type of relationship building came from the Middle College High School established in 1974 at LaGuardia Community College in New York City. The school establishes, and encourages close relationships between students, and adults in the community and provides exposure to the college environment as a way to encourage student responsibility and commitment to academic success (Born, 2006, p. 50).

School success can be measured with different criteria. According to Goldberger, Keough & Almeida (2000), successful high schools are responsible for fulfilling the following criteria:

- Providing an intellectually rigorous and relevant learning experience for all students.
- Personalizing learning through small learning communities, mentoring, and other relationship-building features.

- Expanding students' opportunities to learn by extending the classroom to the workplace and the community.
- Developing and sustaining a collaborative professional community.
- Promoting successful postsecondary transitions.
- Ensuring equity in participation and success in school-to-career learning experiences. (p. 32-34)

The core principles of the Early College High School Initiative seem to meet these criteria in educating students. Success, in this study, was measured through three criteria: student retention, state academic assessment achievement, and college credit course completion.

Statement of the Problem

Early college high schools are programs created by collaborations between secondary public education and institutions of higher education to address the challenge of increasing the number of traditionally underserved students (i.e. minorities, low socioeconomic status, and first-generation-to-college) entering in institutions of higher education. Students in early college high schools are able to graduate from the school with a high school diploma and an associate's degree, or 60 hours of transferrable college credit. While the success rates of these populations of students in public secondary schools have been low, early college high school admissions policies aim to enhance retention and success rates for traditionally underserved students (NCES, 2007). Effective institutional strategies utilized in these collaborative initiatives that pursue, as a main goal, to promote high school, and higher education, student retention and success were

investigated so that other educational settings may replicate such practices to further enhance educational opportunities for all students.

A more in-depth understanding of how early college high schools are able to be successful with students who are traditionally underserved in the United States education system is needed. Specifically, specific effective institutional strategies that early college high schools use to promote student success and retention were identified and analyzed in order to determine common trends and practices that are utilized by these innovative institutions.

Purpose

The purpose of this research study was to determine which early college high school practices were effective for retention, academic achievement on state assessments, and college credit course completion for students in selected Texas early college high school programs.

Research Questions

1. Are the student demographic composition and ability levels, as indicated by Texas Education Agency Academic Excellence Indicator System measures, of Texas early college high schools similar to students of other traditional high schools in the districts within the local area?
2. Are student outcomes (specifically, student retention, academic achievement on state assessments, and college credit course completion) similar to students of other traditional high schools in the districts within the local area?
3. What practices do students of Texas early college high schools perceive as contributors to their retention in the early college high school program?

4. What practices do students of Texas early college high schools perceive as contributors to their academic achievement on state assessments in the early college high school program?
5. What practices do students of Texas early college high schools perceive as contributors to their completion of college credit courses in the early high school program?

Methodology

This study utilized a mixed methods design, using both quantitative and qualitative research methods, to determine which effective retention and success strategies were common to selected Texas early college high schools. Quantitative analysis of the data was conducted through the examination of the descriptive statistics of independent sample t-tests run through the SPSS statistical analysis program. A p-value of .05 was the acceptance level used to determine the statistical significance of the data analysis. The qualitative analysis portion of the study was conducted through the use of anonymous surveys given to students, student focus groups, and reviews of institutional documents of selected early college high schools. These data were analyzed to determine the common effective strategies that are utilized to promote retention, academic achievement on state assessments, and college course completion on all of the selected campuses. Surveys were conducted during the spring and fall semesters of 2010, and focus groups were conducted during the fall semester of 2010. Early college high school campus documents relating to retention, state assessment achievement, and college course completion were obtained and analyzed in the fall of 2010.

Definition of Terms

Academically Achievement on State Assessments – a measure of achievement on the Texas Assessment of Knowledge and Skills as defined by the Texas Education agency. Students receive performance ratings of did not meet standard, met standard, or commended.

Academically Successful Campus - a campus that maintains a high student retention rate, high state assessment achievement rate, and high college credit course completion rate, as indicated by the Texas Education Agency Academic Excellence Indicator System.

Bill & Melinda Gates Foundation -founding organization of the Early College High School Initiative.

Early College High School Initiative - a group of educational organizations that support early college high school with the mission of raising the high school graduation and postsecondary success rates of underserved youth.

Early College High Schools - schools that blend high school and college in a rigorous yet supportive program, compressing the time it takes to complete a high school diploma and the first two years of college.

Family Educational Rights and Privacy Act (FERPA) – a Federal law that protects the privacy of student education records.

Jobs for the Future – organization that is responsible for overseeing the Early College High School Initiative for the Bill & Melinda Gates Foundation.

Mixed Method Research – research that uses both quantitative and qualitative methods and data in the same study.

Success - in this study, will be measured through three criteria: student retention, state academic assessment achievement, and college credit course completion.

Qualitative Research – research that captures holistic pictures using words.

Quantitative Research – research that measures variables in a quantifiable way.

Traditionally Underserved Students - students that are financially disadvantaged, racial minorities, and first generation individuals who are not represented in colleges and universities in proportion to their representation in the K-12 educational system or in society at large.

Abbreviations

ECHS – Early College High School

ECHSI – Earl College High School Initiative

JFF – Jobs for the Future

Delimitations

This study did not examine all early college high schools in the United States. Texas schools listed as participants in the Early College High Initiative were used as the pool of schools from which to select participants for this research project. The pool of schools was further restricted to school districts that included early college high schools and at least two other traditional high schools. Following these selection guidelines, the following school districts were able to participate in this research study: Corpus Christi ISD, Dallas ISD, Carrollton-Farmers Branch ISD, Laredo ISD, Socorro ISD, and Houston ISD. The main focus of this study was to determine effective strategies that contribute to retention, achievement on state assessments, and completion of college credit courses for the early college high schools in these specific districts. The study did

not evaluate retention, state academic assessment achievement, and college credit course completion strategies utilized by all early college high schools, therefore, broad generalizations were unable to be drawn from this study for all of these types of institutions.

Limitations

Since the pool of early college high schools included in this study were restricted to purposefully selected school districts in the Corpus Christi ISD, Dallas ISD, Carrollton-Farmers Branch ISD, Laredo ISD, Socorro ISD, and Houston ISD, school districts, the results cannot be generalized for all early college high schools in the United States or the state of Texas. Also, only random samples of students were participants used in the study. The results cannot be viewed as the opinions of all students in the Texas early college high schools that were evaluated in the study.

Assumptions

Early college high schools have created opportunity for specific populations in the United States, and function under specific guidelines. Thus, the following assumptions guide the study.

The First Assumption. The first assumption is that the early college high schools in this study followed admissions practices established by the Early College High School Initiative.

The Second Assumption. The second assumption is that responses given by the early college high school students represented the true perception of the participants, and were not coerced in any way.

The Third Assumption. The third assumption is that the schools used in the study believe in, and follow, the core principles of the Early College Initiative.

Significance of the Study

Improving the access and opportunity for educational success for traditionally underserved populations is important in all educational settings. The results of this study can generate information about retention and state assessment achievement, and college credit course completion practices found to be contributors to the effectiveness of selected early college high schools in the state of Texas. The knowledge gained from the study can be beneficial, not only for early college high schools, but for secondary education in general. If the effective retention and success strategies are found to be successful for the traditionally underserved student populations in early college high schools, they may also be applicable to the same populations in secondary education in general.

Summary

Early college high schools are innovative programs that improve access and opportunity to higher education for traditionally underserved populations in the United States. The retention and success rates for the traditionally underserved populations in early college high schools are significantly higher than traditional public high schools. If the effective retention, state assessment achievement, and college credit course completion strategies of early college high school traditionally underserved populations can be determined, those same strategies may have potential in traditional high school settings across the country.

While there are studies of selected early college high school retention and success strategies, additional information on the subject is needed. Previous studies have documented success strategies in different states in the country, however there is very little literature relating to the success and retention strategies used in Texas early college high schools. Through a multi-case study of selected Texas Early College High Schools, utilizing an anonymous survey method for obtaining data, common effective retention and success strategies of these schools were determined. The results of this study may benefit early college high schools across the country and to secondary education in general.

Chapter 2 of this study discusses the relevant literature of early college high schools. In the chapter, history and design of early college high schools is discussed. Along with this information, literature relating to the recruitment, admissions, financing and success is also reviewed.

Chapter 2

Introduction

There is an ongoing challenge facing both public secondary and higher education systems in the United States. The challenge is increasing the numbers of minority and low socioeconomic status students attending institutions of higher education. The emerging trend in education is to form partnerships between the public secondary and higher education systems to better prepare today's students to graduate from high school, enroll in an institution of higher education, and, ultimately graduate from the institution of higher education with a degree. Jobs for the Future (2007) reports the following national statistics that illustrate why it is imperative to better connect and integrate post secondary schooling:

- Young people from middle-class and wealthy families are almost five times more likely to earn a two – or four-year college degree than those from low-income families.
- For every 100 low-income students who start high school, only 65 will get a high school diploma and only 45 will enroll in college. Only 11 will complete a postsecondary degree.
- High school graduates from poor families who score in the top quartile on standardized tests are no more likely to attend college than their lowest-scoring, affluent peers. The former group enrolls at rates of 78 percent; the latter at 77 percent.

- Nearly half of the nation's African-American students and nearly 40 percent of Latino students attend high schools in which graduation is not the norm. In the nation's 900 to 1,000 urban "dropout factories," completing high school is a 50:50 proposition at best. (p. 3)

Educational partnerships between the high schools and institutions of higher education have been established to address the issues reported by Jobs for the Future. Many high school students are already taking advantage of dual enrollment and Advanced Placement programs, in order to receive both high school credit towards graduation and college credit. However, these programs do not seem to focus on underrepresented populations in the educational system; primarily students of color and students of low socioeconomic status.

A very innovative program that has recently emerged to address the under representation of minority and low socioeconomic status students is the Early College High School Initiative. This program began with start-up support from the Bill & Melinda Gates Foundation and 13 partner organizations (Jobs for the Future, 2007, p.1). The cooperation between the Gates foundation and these intermediaries has been integral in the implementation of the program.

This chapter examines some of the past and current literature about this initiative, its history, challenges to higher education access, policies, structure, core principles, recruitment and admission strategies, financing, success, and challenges to early college high schools.

A Brief History of Policies Relating to Access to Higher Education

United States policies relating to the access of individuals to higher education have gone through a transformative process throughout the country's history. In the early stages of the country's educational system, access to educational opportunities was very restricted. Public education was first initiated in the United States in 1837, with the establishment of common schools in the state of Massachusetts. It was the implementation of these common schools that began free education in this country (Roueche, OmahaBoy, & Mullins, 1987, p. 3). It was not for another twenty years that access to public higher education began. Roueche et al. (1987) states, "It was not until 1862, with the Morrill Land Grant Act establishing land-grant colleges, that greater access to higher education was achieved. Thus, the 'people's college' was born" (p. 3). Even with the establishment of these land-grant colleges, access to higher education opportunities still remained very restrictive.

The next major policy development that improved the access to higher education opportunities was the establishment of junior colleges. Roueche et al. (1987) states, "Later in 1896, William Rainey Harper broadened the base of higher education by founding the first junior college at the University of Chicago" (p. 3). Roueche et al. (1987) goes on to state:

> The eminent educator Alexis Lange has described the basic underlying principle of democracy as the 'continuing of educational opportunity' and the 'completeness of such opportunity'. Furthermore, he saw the junior college as the vehicle for realizing this fundamental democratic precept. The focus of the junior college, according to Lange, is not on the few [whose rights to an abundance of

> educational life, liberty, and happiness remain sacred] but the many, whose right to the means of making a life and making a living are equally sacred. (p. 3)

From these policies, that were the foundation of the junior college, the community college was created.

According to Roueche et al. (1987), "As early as 1936, Hollinshead asserted that the junior college should be a community institution meeting community needs, providing adult education and educational, recreational, and vocational activities, and placing its facilities at the disposal of the community" (p. 4). In 1944, the soldiers returning from World War II took advantage of this new community college ideology, made possible by funding from the GI Bill of Rights. Roueche et al. (1987) states:

> In 1947, the philosophy of open access was further advanced by the Truman Commission on Higher Education, which strongly advocated education for all and established the basic functions of community colleges-providing proper education for all the people of the community without regard to race, sex, religion, color, geographical location, or financial status. Expressing a similar view, Bogue stated in 1950 that education is a never ending process 'of the community, by the community, and for the community'. (p. 4)

Since then, the community college movement has grown and refined itself to become an institution that opens the doors of opportunity and access to higher education for people in a major portion of the communities of the United States. This implementation and growth of the community college is an example of how access to higher education has changed. Not only has educational policy influenced the creation of institutions to increase access to higher education, but the review and evaluation of these policies, and

their outcomes over time, have influenced educational practices within and between institutions of higher education. Even with the creation of community colleges, there are, still, challenges to higher education access for citizens of the United States.

Challenges to Higher Education Access

There has been research conducted to determine which societal factors hindered access to higher education for the citizens of the United States. Kirsch, Braum, & Yamamoto (2007) identified three factors that have the potential to negatively impact access and opportunity for higher education, and to the overall well-being of the citizens of the country. In the report, the first factor highlighted is the wide disparity in literacy and numeracy skills among our school-age and adult populations (p. 3). According to the report:

> The first set of forces is evident in the findings of a number of large-scale national and international surveys conducted over the past decades, which show that large numbers of our nation's adults do not have sufficient command of the literacy and numeracy skills needed to function effectively in an increasingly competitive work environment. Moreover, skills are not evenly distributed across groups defined by race/ethnicity, nativity, and socioeconomic status. In fact, there are substantial differences in average literacy levels among these groups. In younger cohorts, these differences are mirrored by critical differences in academic achievement and educational attainment. (Kirsch, et al., 2007, p. 6).

Taking into account this disparity in educational preparedness of the citizens of this country, there is a strong possibility that this lack of academic achievement could further restrict the participation of certain groups in the functioning of our society.

To address this national problem of higher education access, policies have been created to provide better educational experiences to individuals that are termed "underserved" by the current educational system. According to Bragg, Kim & Rubin (2005), underserved students include:

> …those who are unable to obtain educational opportunity or have limited access to the educational system for a variety of reasons. Typically, underserved students are financially disadvantaged, racial/minorities, and first-generation individuals who are not represented in colleges and universities in proportion to their representation in the K-12 educational system or in society at large. Further, underserved students are youth who are at risk of unequal educational opportunity due to historical discrimination against them because of their gender, racial/ethnic origin, nationality, and social class; their physical and/or emotionally disablement; or their involvement in criminal activity. Many underserved populations are limited English proficiency or illiterate, with immigrants being an increasingly important segment of this population. (pp. 6-7)

As a result, policies to increase educational opportunities have been created to focus on and advance theses populations in the K-12 and higher education systems.

Policies Created to Meet Higher Education Access Challenges

One of the policies that has been enacted to concentrate on the underserved populations deals with reforming the alignment between public K-12 education and the higher education system. According to Kim & Bragg (2006), "As a result, statewide P-16 initiatives, also called K-16 or P-20, are aimed at coordinating and aligning K-12 and higher education policies and practices in terms of governance and organizational

structure to integrate the disconnected and disparate educational sectors into a seamless educational system" (p. 6). Another policy created to ensure higher education access for underserved populations is dual enrollment. According to Karp, Bailey, Hughes, and Fermin (2004), "Dual enrollment programs allow high school students to enroll in college courses and earn college and high school credit simultaneously, thereby exposing them to the academic and social demands of postsecondary education" (p. 1). Furthermore, policies are being created to encourage access to college credit granting courses for a broader range of students, particularly middle- and low-achieving students

These policy changes ultimately empower and provide opportunity for participation of educationally underserved populations in society. However, the question can be raised as to whether changes in these educational policies are keeping up with the country's changing demographics. It is imperative that educational policy ensures that all members of society have the opportunity to participate in our democracy.

The History of the Educational Structures Leading to the Implementation of Early College High Schools

According to The Early College High School Initiative web page, the implementation of the actual early college high school initiative, by the Bill & Melinda Gates Foundation, began in 2002 ("Welcome to Early College High School," 2009). However, current literature suggests that the theory behind the academic structure of early college high schools began far prior to this date. Kisker (2006) indicated that the roots of the academic structure behind the initiative date back to the early 1900's. Kisker (2006) states:

> The idea to integrate the last few years of public secondary school with the first 2 years of college is not new. In the 1930's and 1940's, Leonard Koos, and

> influential scholar at the universities of Minnesota and Chicago, promoted the 6-4-4 plan of public education then in place in Pasadena and Compton school districts in California as well as districts in Kansas, Missouri, Oklahoma, and Mississippi. (p. 3)

Koos (1946) in his book entitled *Integrating High School and College: The six-four-four plan at work,* makes an argument for restructuring the educational system, from one that required five years of elementary education followed by three years of middle school and four years of high school, prior to engaging in college coursework to one consisting of six years of elementary school followed by four years of junior high school and then four years of junior college. Under Leonard Koos' educational plan, students would follow the six-four-four academic structure for completion of the foundation of their educational careers. Koos (1946) states that the six-four-four plan is a form of school organization "which sets up a system including a six-year elementary school, a second unit of four grades, usually called the 'junior high school,' and a third unit, again of four years, customarily referred to as the 'junior college' (p. 1). According to Koos (1946), "Without attempting at the moment to go more deeply into the forces behind the movement, one is justified in contending that it is born of the conjunction of two other vigorous and contemporaneous movements, junior high school reorganization and the advent of junior colleges in large numbers" (p. 1). Koos (1946) further explains the advantages of the six-four-four plan by examining its organization and structure, curriculum, the student, the administrator, the instructor, and facilities. Koos eventually culminates his study by stating: "The main conclusion is that eh 6-4-4-plan is at once the

most effective and the most economical means of bringing the full advantage of the junior high school and the junior college to the community (p. 187).

LaGuardia Middle College School, located at LaGuardia Community college in the Bronx section of New York, was the next major accomplishment toward the establishment of the Early College High School Initiative. Initially, the LaGuardia Middle College High School was targeted towards at-risk youth in the New York City area. . Kisker (2006) states:

> And in the early 1970's, educators in the Bronx section of New York City created the Middle College High School (MCHS) at LaGuardia Community College for disadvantaged 9th through 12th graders who might benefit from a nontraditional setting in which they could learn with and from community college students. Encouraged by praise from Ernest Boyer, president of the Carnegie Foundation for the Advancement of Teaching, and aided by funding from the Ford Foundation, educators at LaGuardia's MCHS helped replicate the institution at several community colleges across the country. (p. 3)

Core Principals of the Early College High School Initiative

Statistics describing the education traditionally underserved students receive from the traditional high school, and the resulting preparation they receive for successful completion of a higher education program, is gloomy at best. The core principles of the Early College High School Initiative are focused on providing access for students who are underrepresented in the higher education system. The ECHSI attempts to change the structure of the high school program and the transition to of higher education. The program aims to decrease the rate of students dropping out of high school or their first

two years of college. “This is particularly acute for students who are highly motivated but have not received the academic preparation necessary to meet the high school standards, students who are English language learners, students whose family obligations keep them at home, and students for whom the cost of college is prohibitive” (Jobs for the Future, 2002, p. 3).

The ECHSI makes an effort to increase the rigor of the high school program to better prepare the students for successful admission and completion of a higher education program. Many young people feel that high school is boring and its purpose is unclear. It takes too long to get a diploma, and there are few incentives to do well because college seems both too expensive and out of reach (Jobs for the Future, 2002, p.1). “Many of these students take non-challenging, repetitious classes” (Jobs for the Future, 2002, p.3). The current trend in secondary education is that the senior year of high school is becoming less rigorous and purposeful.

The partners in the ECHSI “believe that encountering the rigor, depth, and intensity of college work at an earlier age inspires average underachieving and well prepared high school students” (Jobs for the Future, 2002, p.3). All of the schools in the ECHSI share common attributes that increase the likelihood of student graduation from high school and subsequent admission to an institution of higher education. These attributes are:

- Students earn an associate’s degree or two years of college credit toward the baccalaureate while in high school;
- Mastery and competence are rewarded with enrollment in college-level courses;

- The years to a postsecondary degree are compressed; and
- The middle grades are included or there is outreach to middle-grade students to promote academic preparation and awareness of the early college high school option (Jobs for the Future, 2002, p.4).

The schools exemplify these attributes through a shared vision of what is expected from the school and the student, the building of a culture of learning and support, and a focus on outcomes, which the student should demonstrate throughout the program (Jobs for the Future, 2002, p.4-5).

Design of Early College High Schools

The implementation of early college high schools occurred at two types of schools: schools that were starting the initiative from scratch, and schools that were adapting to include features of early college high schools. A number of the schools, which implemented the initiative, were charter schools. The initial design of early college high schools recommended an outreach to middle schools, also. However, at the onset, none of the initial early college high schools enrolled students lower than the ninth grade (Berger, A.R., et al, 2005, p. ii).

In some cases, the early college high school stresses certain academic themes. For example, the Utah County Academy of Sciences is an early college high school that is based around math and science themes. The Academy suggests to prospective students that they enjoy math and science before they decide to enroll. There are over 13 subject areas in which the students can major. "These areas are: Computer Information Systems Technology, Computer Networking Sciences, Electronic Automation/Robotic Technology, Pre Engineering, Multimedia Communication, Engineering Graphics and

Design Technology, Biology (Pre-medical, Pre-dental), Chemistry, Community Health, Earth Science, Nursing (pre-requisite courses), and Physics" (Trevino, A & Mayes, C., 2006, p. 74).

Another important feature of the early college high school program is the school's location. According to the first ECHSI year end report, "ECHSs were located at four types of facilities: facilities shared with other schools, institutions of higher education (IHE) campuses, office buildings, and their own school buildings. Locating ECHSs on IHE campuses reduced some of the logistical challenges involved in delivering college courses to high school students. Schools located in their own school buildings received the fewest complaints from staff and students" (Berger, A.R., et al, 2005, p. ii). The main type of complaints that students had about the facilities were inadequate facilities, transportation challenges and crowded spaces (Berger, A.R., et al, 2005, p. ii).

Partnerships

Early College High Schools are built upon the foundation of a strong partnership between a high school and an institution of higher education. The institution of higher education can be a two-year community college or a four-year institution. The model for building this type of relationship building came from the Middle College High School established in 1974 at LaGuardia Community College in New York City (Born, 2006, p. 50). The school establishes and encourages close relationships between students and adults in the community and provides exposure to the college environment as a way to encourage student responsibility and commitment to academic success (Born, 2006, p. 50).

Jobs for the Future (2007) describes how these partnerships function in the operation of an early college high school. According to Jobs for the Future (2007):

> Increasingly, foundations look to 'intermediary organizations' as partners in order to jumpstart new ventures, conduct feasibility studies, create due diligence processes, engage outside experts and provide professional development for the schools and communities they serve. An intermediary organization acts as a grant manager, and it selects and supports school sites, especially during the planning and start-up phases. Current early high school partners run the gamut from organizations experienced in creating or redesigning school, to national constituency-based organizations, to community foundations, to higher education institutions and organizations…They provide start-up and ongoing technical support, guidance, and professional development for their networks of schools. (p. 11)

Curriculum

The curriculum of the Early College High School is an integral part of the success of the school. The California Academy for Liberal Studies describes its curriculum as "designed to prepare all students for entry into the state's public four-year system and, at the same time, provide students with the opportunity to earn significant college credits while in high school" (Goldberger & Haynes, 2005, p. 3). The school has carefully selected community college courses from its partner, the Los Angeles Trade and Technical College, to meet the goals of the curriculum. If the program is completed, the students will earn three college credits in the tenth grade, ten college credits in the

eleventh grade, and up to thirteen college credits in the twelfth grade, plus nine credits over three summers (Goldberger & Haynes, 2005, p. 3).

An example cited in the literature of how an early college high school curriculum is structured is described in the University of California system. The sequence of courses that the students will take to meet both the state high school standards for graduation and the University of California "A-G" subject area requirements for transfer into a four-year higher education institution have been mapped out. If the course schedule created by the program is followed, the student will earn up to 35 college credits in addition to fulfilling all UC admissions requirements by the end of the 12th grade (Goldberger & Haynes, 2005, p. 3).

Counseling and Advising

The students in early college high school programs are counseled by both the high school and college staff to help plan and guide their way through the curriculum. Each year students take an advisement course which provides them with guidance around college-going issues specific to The University of California and California State University systems. This keeps them focused on the final goal of graduation and transfer into one of the four-year higher education institutions. Though the academic requirements of the student course of study are designed to meet the University of California or California State University admissions requirements, a graduating senior who does not apply to one of those institutions can enroll in a thirteenth-year designed to help them complete the requirements for an Associate of Arts degree at Los Angeles Trade and Technical College (Goldberger & Haynes, 2005, p. 3). Students who select this option receive ongoing counseling and support from their California Academy for Liberal arts

advisors and from the Los Angeles Trade and Technical College counseling and academic support staff (Goldberger & Haynes, 2005, p. 3). These measures assure that the students are constantly in contact with a staff or faculty member from one of the schools to keep them focused on their educational goals.

Recruitment and Admission Strategies of Early College High Schools

The American Institutes for Research and SRI International conducted a study in 2005 on how early college high schools utilized a variety of recruitment strategies to draw students to their programs. The study examined advertisement strategies, criteria used in selecting students, and percentages of youth, from traditionally underserved groups that made up the student body in the schools. In order to entice students to enroll, early college high schools used different strategies. Some of the strategies were recruiting students from middle schools and other high schools, presenting the school's educational aspects to particular populations and community groups, using media (such as radio and newspaper advertisements), or no formal recruitment method at all (The American Institutes for Research & SRI International, 2005, p. 2).

Mission Early College High School Recruitment Practices

Mission Early College High School has an established protocol for recruit students for the school. Dr. Armando Aguirre, director of the Mission Early College High School in El Paso, Texas explained how he sends out messages and fliers to all of the middle schools in the Socorro Independent School District. Along with this recruitment strategy, Dr. Aguirre also holds informational meetings for parents of students who are interested in attending Mission. He explained that through these strategies he is able to

generate 350 – 400 admissions applications from students interested in being included in the class that will total only 125 (A. Aguirre, personal communication, May 1, 2008).

University Preparatory High School Recruitment Practices

University Preparatory High School utilizes similar methods of recruiting early college high school students. Melissa Taylor, Director of University Preparatory High School in Corpus Christi, Texas, explained that she sent out letters to all eighth grade students in Flour Bluff Independent School District to promote her early college high school. She also said that she holds parent information meetings to help generate interest in the program. Ms. Taylor said that she also spends two days at the middle schools in her feeder district to inform the middle school students about her program. She explained that her recruitment techniques usually generate about 130 admission applications to fill the 100 seats of the incoming class (M. Taylor, personal communication, May 1, 2008). Many of the Texas early college high schools have websites that promote their programs and provide access to admission application documents for those students who have access to the internet. These sites do a very good job of explaining the focus and goals of the early college high school program to interested students.

Admissions

The early college high school also uses different criteria to select students, including demographic criteria (targeting certain minority and subgroups for enrollment), behavior and motivation, and academics. Early college high schools are, for the most part, adhering to their mission of enrolling higher or similar percentages of underserved students as a regular school district. Some schools, however, did enroll lower percentages

of underserved students (The American Institutes for Research & SRI International, 2005, p. 3).

Challenge Early College High School Admission Practices

In order to satisfy the core principles of the Early College High School Initiative, Challenge Early College High School has put in place defined procedures for admitting students. Patty Syzdek, support staff at Challenge Early College High School in Houston, Texas, explained how the school's admission process was organized to meet the goal of admitting students from underrepresented populations into the early college high school. She explained that the school determines the eligibility of students by using the criteria presented by the Bill & Melinda Gates Foundation Early College High School Initiative. When admission applications are received they are screened to determine if they meet the demographic criteria set out by the initiative. Once eligibility has been confirmed, all of the approved applications are put into a pool and the students that will be admitted to the incoming class are determined by a lottery system. Ms. Syzdek said that she felt this was the fairest way to select the students. The Challenge Early College High School website and application both define the eligibility criteria for admission to the school very clearly. Not all of the sites for early college high schools in Texas have eligibility criteria posted for students to see (P. Syzdec, personal communication, April 18, 2008).

Collegiate High School Admission Practices

Collegiate High School, also, follows certain guidelines when admitting early college high school students. Tracie Rodriguez, Principal of Collegiate High School in Corpus Christi, Texas explained that her system is very similar to the process described by Ms. Syzdek at Challenge Early College high School. Ms. Rodriguez described that

admissions committee at her school reviews all of the applications to first determine if they meet the eligibility criteria, those that do are put in a pool. The applicants that are admitted to the incoming class of about 100 are determined through a lottery. Ms. Rodriguez stressed that the eligibility criteria given by the Early College High School Initiative are strictly followed (T. Rodriguez, personal communication, April 18, 2008).

University Preparatory High School Admission Practices

Another example of similarities in the admissions processes of early college high schools is apparent in the University Preparatory High School. Melissa Taylor, Director of the University Preparatory High School in Corpus Christi, Texas, used an almost identical process as the previous two schools. Ms. Taylor said that she usually receives about 130 applications and selects 100 for her incoming class. She also said that they make a point to serve underrepresented populations; first generation higher education students, English language learners, students of low socioeconomic status, and students who lack proper academic preparation (M. Taylor, personal communication, May 1, 2008).

Mission Early College High School Admission Practices

Mission Early College High School has also developed a similar method for admitting early college high school students. Dr. Armando Aguirre, Director of Mission Early College in El Paso, Texas, also used similar admissions and selection process as the previous schools for his incoming class of 125 students. He did make an interesting comment about advertising the eligibility criteria when he recruits for the incoming class. He felt publishing the eligibility criteria that have been set forth by the Early College High School Initiative on the application, or other admission documents given to the

students, could be a deterrent for some students to apply to the program. He felt that if the students and parents knew what type of students the school was targeting it could give the school a type of "stigma" and some of the best students might not apply. Therefore, he does not publish or advertise the demographic criteria. Another interesting aspect of the Mission Early College High school admissions process is that, for students to be eligible for admission, they must have already made a successful, passing score on a college placement examination (A. Aguirre, personal communication, May 1, 2008).

Financing of Early College High Schools

The Bill & Melinda Gates Foundation, along with Carnegie Corporation of New York, the Ford foundation, the W.K. Kellogg Foundation, and the Lumina Foundation for Education have provided start-up funding for the Early College High School Initiative. Although the Initiative provided the start-up funds for the creation of early college high schools, the funds were not meant to sustain the programs after the grant funding period. Early college high schools would eventually have to devise a funding stream to sustain them after the grant funding period expired.

In 2003, Michael Webb conducted a study for the Early College High School Finance Working Group to examine the cost of planning and implementing an early college high school. In the study, the financial budgets of early college high schools on high school campuses, middle college high schools on two-year campuses, early college high schools on two-year campuses, early college high schools on university campuses, and charter early college high schools were analyzed to determine the financial feasibility and sustainability of the programs (Webb, 2004).

According to the study, there are six main revenue streams that fund the early college high schools: per pupil allocations based on student enrollment (ADA or ADM), tuition reductions, federal entitlement aid (such as Title I and Title V), state grants, charter grants, and in-kind contributions (Webb, 2004, p. 2). Webb (2004) stated:

> As early college high schools mature, they undoubtedly will tap into a wider pool of grants. However, 'soft' funding cannot be viewed as a long-term strategy for funding sustainability. Possible strategies for ensuring students can draw down ADA or ADM, permitting the use of ADA or ADM to pay for college classes, and allowing higher education institutions to claim FTE dual enrollees (i.e., reimbursement a state allocates to postsecondary institutions based on the number of college credits a student is taking). (p. 2)

The study determined that early college high schools that were operated on public two-year campuses were the only types of early college high schools that were determined to be financially viable compared to early college high schools on high school campuses, middle college early college high schools on two-year campuses, early college high schools on university campuses, and charter early college high schools. In fact, when compared to the other types of early college high schools, the projected budgets for early college high schools that were operated on two-year campuses resulted in surplus funds. Some of the reasons for the financial viability of early college high schools on two-year public campuses are the per-credit tuition rate are much lower than programs on university campuses, and the lower cost of instructional personnel (Webb, 2004).

Financial Sustainability of Early College High Schools

Early college high schools depend on financial sustainability that they can achieve. However, institutions may have different approaches to achieve sustainability. An example of an early college high school that has planned for financial sustainability is the California Academy of Liberal Studies in Los Angeles, California. Although the Academy is a charter early college high school, it is an excellent example of how early college high schools are able to use existing funding streams to remain financially sustainable. The Academy is partnered with the Los Angeles Trade-Technical College for the higher education portion of its curriculum. Through the use of concurrent enrollment courses at Los Angeles Trade-Technical College, the Academy is able to offer tenth, eleventh, and twelfth grade students college credit courses in Spanish, English and Lab Science for a substantial savings, compared to offering the courses as only high school credit courses. Goldberg & Haynes (2005) describe how the California Academy of Liberal Studies is able to generate a savings of $172,820 through the use of Los Angeles Trade-Technical College concurrent enrollment courses. The main reason for the savings is the reduction in the personnel costs related to teaching the same courses at the high school level. In each of the courses, Spanish, English, and Lab Science, the requirement of two full-time equivalent teachers (at a cost of $127,050 for each course) is eliminated when the courses are taken at Los Angeles Trade-Technical College as concurrent enrollment classes. Another major factor is the low cost of tuition at the Los Angeles Trade-Technical College. For non-laboratory courses at the Los Angeles Trade-Technical College, the enrollment fee for a three credit course is only $84.00, and for laboratory courses the enrollment fee is only $112.00.

Mission Early College High School, located on the Mission del Paso campus of El Paso Community College, is one example of an early college high school that received start-up funding from the Bill & Melinda Gates Foundation and its partners and has also planned for financial sustainability in the future. After the $400,000 start-up funding had been received, work began immediately to devise a plan to sustain the school financially. Dr. Richard Rhodes, President of El Paso Community College, formed four planning groups to implement Mission Early College High School. The planning teams were established in four areas:

- Curriculum, Alignment and Structure
- Facilities
- Financing
- Grant Proposals. (R. Rhodes, personal communication, November 10. 2008)

The Curriculum, Alignment and Structure planning team was responsible for determining a system of curriculum alignment and structure between the district and the community college. This team also was responsible for designing the curriculum that would allow the students attending the early college high school to accumulate enough credits to earn an associate's degree or two years of transferable college credit before graduation. The Facilities team was responsible for determining the physical plant responsibilities for the community college and the school district. The Financing planning team was responsible for determining what aspects of the early college high school (security, counselors, teachers, training, etc.) would be funded by the community college and which would be funded by the school district. The Grant Proposals planning team was responsible for soliciting outside funding to sustain the program in the event that the

seed money was not be sufficient. From the results of these planning teams, a financial sustainability strategy was developed (R. Rhodes, personal communication, November 10. 2008).

Dr. Armando Aguirre, principal of Mission Early College High School, explained that the school was able to remain financially viable from three main sources: per pupil average daily attendance funds, Title I funding (the school has a large population of students who are classified as economically disadvantaged), and grants. Dr. Aguirre also stated that the students who are taking college credit classes earn state funding for El Paso Community College. He explained that Mission Early College High School should be able to sustain itself with those funds in the future (A. Aguirre, personal communication, November 11, 2008).

Funding Policies

State funding policies have also been altered to support early college high schools. In the states of Georgia, Ohio, Texas, and Utah early college high schools are funded through a variety of sources. In these particular states, there are three categories of expenditures for early college high school programs: the high school education, the partnership, and the college education. Partnership costs include such items as a college liaison to coordinate work across the two institutions, an integrative seminar and academic support mechanisms, and curriculum development, professional development, and ECHS governance structures (Hoffman, N. & Vargas, J., 2005, p. 9). "The basic revenue streams available to meet those costs include state and local per-pupil apportionments at the level of the district in which the school is situated or at the rate allocated for charter or contract schools; the reimbursement a state allocates to post

secondary institutions based on the number of college credits a student is taking; and means-tested or merit-based federal or state financial aid" (Hoffman, N. & Vargas, J., 2005, p. 9).

According to Hoffman and Vargas (2005), funding model for early college high schools has several components.

> The general funding model for a new ECHS has several components. The early college high school sends cohorts of students into a postsecondary institution to earn enough credits for an Associate's degree or to enter a Bachelor's degree program as a junior during the four or five years in high school; thus, these schools need fewer teachers and less capacity to provide advanced work. The dollars saved by the high school because it has a smaller teaching staff can be devoted to supporting some of the per-credit college course costs and costs of the ECHS partnership. Postsecondary costs may also be offset by state reimbursement generated by an ECHS student's enrollment (as with 'regular' college students) and by federal and state financial aid. In some states, early college high schools may access state dual enrollment funds to pay for costs of college courses, tuition, fees, and books. (p. 9)

Literature on early college high schools also states that Georgia, Ohio, Texas and Utah have all adjusted their state funding policies to support the Early College High School Initiative (Jobs for the Future, 2006).

Through these examples, it is evident that these types of schools can be financially sustainable. However, not all of the different types of early college high schools are able to operate in this manner. Early college high schools that operate on high

school campuses, as middle colleges on two-year campuses, on university campuses, and as charter schools, usually have the additional burden of expensive personnel costs or high tuition rates that cause them to be less sustainable financially. With the urgent need for the programs, it is imperative that funding streams be secured to sustain them. Ensuring the financial sustainability of early college high schools has the potential to impact the opportunity and access for traditionally underrepresented populations in higher education.

Success of Early College High Schools

For this study, the definition of "success" will be defined through high graduation rates and low drop-out rates, and performance on state and national academic measures for students on early college high school campuses. Scholarly literature has been written that discusses early college high school program success from the viewpoint of teachers and students on early college high school campuses. According to the *Early College High School Initiative Evaluation, 2003-2006, Summary* (2007), early college high school students consistently out-performed their district's traditional high school counterparts on measures of academic achievement. Two measures that were examined in the summary were the scores of students on their state's ELA/reading and mathematics assessments. The summary noted that early college high school students out-performed their district's traditional high schools by 12 percentage points on ELA/reading assessments and by 9 percentage points on the mathematics assessments. An interesting view of early college high school student success comes from the teachers of these campuses.

Teacher Viewpoint of Early College High Schools

Glick (2006) gives and interesting account of the experience one teacher had while teaching LaGuardia Early College High School students in a college freshman level reading class. According to the article, she first questioned whether or not the high school students would be able to handle the rigor of the college level courses. The teacher commented:

> I had a number of questions about the viability including secondary students in the postsecondary classroom. Could high school adolescents adapt to the college environment? Would they be able to 'fit in' and become college freshman? Would the level at which the course is taught have to be changed, that is, would the academic standards have to be lowered to meet the needs of the early college high school population? Would there be an 'age gap' between the early college high school and the LaGuardia student that might present difficulties for social interaction and a collaborative working partnership. (p. 3)

Through her teaching experience with that first cohort of students in 2002 in the Essentials of Reading II course, the teacher learned several lessons about having the high school students in her college level classes. Her first comments were that, "They were attentive, maintained a high level of participation, and were cooperative. The more work I assigned, the more they did" (Glick, 2006, p. 3). The second cohort of students the teacher had in 2003, also met expectations for college level work. With the 2004 and 2005 cohorts, the teacher did mention that some of the students had a harder time academically in her classes. "The early college high school students of 2004 and 2005 continued to maintain a high rate of success in class and on the ACT examination. However, not all of these students were prepared for college level courses. Some students

in each early college high school cohort did have academic difficulty in either Essentials of Reading II or Reading the Biography" (Glick, 2006, p. 4).

Overall the performance of the early college high school students left a positive impression on the teacher. Even though the statistical overview of early college school students enrolled in Essential of Reading II at LaGuardia Community College between 2002 and 2005 showed a small decrease in the number who earned an acceptable score on the ACT examination, the numbers of students who passed the Essentials of Reading II course actually increased.

Based on the performance of the students in her classes, the teacher left with a positive evaluation of the early college high school students enrolled in the classes. The teacher commented "Can early college high school students excel in the college classroom? Yes. They have proven themselves to be capable, willing, and able students because they want to be, not because they have to be. This is a program that they see as a means to a very important end: a high school diploma and a two-year college degree, all in five years" (Glick, 2006, p. 4). Not only is it important to obtain the teachers' viewpoint of the early college high school students' success, it is also imperative that the students' view of the campuses be revealed.

The Student Viewpoint of Early College High Schools

Student success is the focus of early college high schools. Jobs for the Future commissioned a study by Harvard researchers to capture the perspectives of students attending early college high schools. The study focused on Dayton Early College Academy in Ohio and Wallis Annenberg High School (formerly The Accelerated School or TAS) in Los Angeles (Wolk, R. A, 2005). After one year of study, the Harvard team,

led by Karen Foster and Michael J Nakkula, released their results from students, teachers, administrators and parents from the two schools. “With the Across Time Orientation Measure (ATOM) they assessed students’ past experiences, present interests and future hopes and worries. They used the Hemmingway Measure of Adolescent Connection to assess the relative degree of connection adolescents feel to different domains in their lives, including school, family, friends, future prospects, and risk taking behavior” (Wolk, R. A, 2005, p. 5).

The research found that there were numerous factors that made a positive impact on the educational experience of the students at these early college high schools. One aspect of early college high schools that was important to students was that the school fostered an educational identity in the students. According to the research, early college high schools affect the manner in which students perceive their future with regard to higher education. According to Dr. Foster, teachers and advisors play an important role in “holding” this prospective education identity for the students until the students gradually come to see the possibility of higher education: “It is as if the teacher periodically lends the student a ‘telescope’ through which to see a future self succeeding in higher education at a time when the student may be struggling with considerable academic challenges in the present” (Wolk, R. A, 2005, p. 7).

The early college high schools made a positive impact on student perspectives through continuous support and caring relationships that were developed at the schools. The schools’ faculty, staff and administration convince the students that it is never too late to accomplish their higher education goals. Wolk (2005) states, “As research has shown, caring relationships between teachers and student enhance student learning and

motivation" (Wolk, R. A, 2005, p. 8). The research also found that many of the students are thriving in the complex learning environment of the early college high schools. Many, however are still feeling anxiety, and many are both thriving and anxious (Wolk, R. A, 2005, p. 9).

The learning environment was a very important factor to the students. Early college high school students enjoyed the environment where they mingled with the college students. "Given the importance to students of being on a college campus and part of the academic experience, the location of early college high schools on or adjacent to a college may prove to be as instrumental as other critical factors" (Wolk, R. A, 2005, p. 10).

The research also found that the way knowledge was constructed in the classrooms by the teachers also had a positive impact on the viewpoints of early college high school students. "This is a process-oriented emphasis on 'figuring things out together' so that students gain deep understanding of new learning through guided experience rather than lecture" (Wolk, R. A, 2005, p. 10). This emphasis is tied to tangible benchmark outcomes and is challenging in its own right for the students. The study also found that students received positive outcomes from the emphasis on personalized learning and widespread and intense commitment to enabling them to reach their educational goals (Wolk, R. A, 2005, p. 11). Although, the literature suggests that there significant academic success of early college high school students, these institutions also face challenges.

Challenges to Early College High Schools

There are several challenges that early college high school face in continuing to operate their institutions. In the publication *Integrating Grades 9 Through 14: State policies to support and sustain early college high schools* (2005), Nancy Hoffman and Joel Vargas describe some of the challenges that early college high school face. Some states do not support the mission of early college high schools. Policies for dual enrollment and dual credit are examples of challenges to early college high school programs. According to Hoffman and Vargas (2005), "Some state dual enrollment rules do not allow college courses to count toward course-taking requirements for high school graduation" (p. 6). Some states do not permit students to replace the number high school credits needed for graduation with college credit hours. Some states have adjusted their polices for college credit hours to count for high school credits, and make the function of early college high schools more feasible.

Another challenge involves policies dealing with eligibility requirements for students to enroll in college courses. In many states, students must pass higher education assessments in order to participate in college courses. If a student passes the assessment for one discipline but not another, the student would be prohibited from enrolling in all college level courses until the assessment is passed for all disciplines. In some states, students who have passed the higher education assessment may enroll in college courses for which they have shown proficiency, and then enroll in the remaining courses once they have successfully passed the assessment (Hoffman, N., & Vargas, J., 2005, p. 7).

Other policies that have challenged early college high schools are those dealing with transfer of credits from the early college high school to four-year institutions. Articulation agreements have been made between early college high schools and four-

year institutions in order to make the transition from the early college high school to the four-year institution seamless (Hoffman, N., & Vargas, J., 2005, p. 8).

Autonomy of the early college high school is another challenge. Schools need the autonomy to create a course schedule that allows for both high school and college credit to be earned. Many states have policies that prohibit the alteration of the course schedule to enable a student to earn both types of credit within the time frame of four years.

While these policies concerning dual credit, student eligibility, credit transferability, and institutional autonomy currently cause barriers to early college high schools, many states are making changes to support the mission of these important programs.

Conclusion

Through the leadership of the Bill & Melinda Gates foundation, the Early College High School Initiative has made strides to provide access to institutions of higher education and, ultimately, college degrees for traditionally underserved students. Early college high schools have an honorable mission to prepare underserved students for enrollment and admission to four-year institutions. According to the 2005 Early College High School Initiative Evaluation Year End Report, the ECHSI has already achieved much in a short period of time. From 2002 to 2004, the ECHSI accomplished:

- Opening twenty-two early college high schools serving approximately 3,500 students from racial and ethnic minority groups and from low-income families
- Establishing many local partnerships and learning how to nurture and solidify these relationships

- Developing an accountability plan to help intermediaries track the progress of the local with early college high schools partnerships
- Making good-faith efforts to create environments for teaching and learning that are characterized by key the attributes of high-performing small schools
- Introducing even ninth grade students to college courses and/or a college campus (Berger, A. R., et al, 2005, p. v).

Berger (2005) states, "Although they come with their share of bureaucracy, districts have been largely active helpful partners in ECHSs, providing pools of instructors, facilities, and technical assistance" (p. 60). With the adjustment of state policies, the ECHI is becoming a viable, sustainable method for educating underserved populations and making access to college degrees possible.

While previous literature describes the student viewpoint of the factors contributing to the academic success of early college high school students, these studies do not focus on Texas early college high school students (Goldberger & Haynes, 2005; Wolk, 2005). Further research is needed to determine what Texas early college high school view has factors contribution to their academic success in the Texas educational system. This study will particularly focus on student viewpoints of Texas early college high school strategies that promote high retention rates, high state assessment academic achievement, and high rates of college credit course completion.

Chapter 3 will focus on the methodology that this study will follow. In chapter 3, the research design, sampling procedures and procedures for data collection and analysis will be defined and described.

Chapter 3

Introduction

In order to effectively analyze the effective success and retention strategies of early college high schools, a sound methodology was used to complete the study. An academically successful campus in this study was defined as a campus that maintains a high student retention rate, high state assessment achievement rate, and high college credit course completion rate, as indicated by the Texas Education Agency Academic Excellence Indicator System. In this chapter, the methodology for the study is described in detail.

The focus of this chapter is to describe the research design, methods of sampling and participant selection, data collection process, and data analysis methods that were utilized in this study.

As stated previously, the purpose of this research study is to determine which early college high school practices contribute to the retention, academic achievement on state assessments, and college credit course completion for students in selected Texas early college high school programs.

The study attempted to answer the following research questions:

1. Are the student demographic composition and ability levels, as indicated by Texas Education Agency Academic Excellence Indicator System measures, of Texas early college high schools similar to students of other traditional high schools in the districts within the local area?
2. Are student outcomes (specifically, student retention, state academic assessment achievement, and college credit course completion) similar to students of other traditional high schools in the districts within the local area?

3. What do practices of Texas early college high schools perceive are contributors to their retention in the early college high school program?
4. What practices do students of Texas early college high schools perceive are contributors to their academic achievement on state assessments in the early high school program?
5. What practices do students of Texas early college high schools perceive are contributors to their completion of college credit courses in the early high school program?

Previous research suggests that student engagement and the construction of strong student/faculty relationships are key factors to academic success at early college high schools (Wolk, R. A, 2005). In addition, institutional practices that engage and focus students toward the goal of graduating high school and completing the requirements of college coursework also seem to be instrumental in the retention and academic success of early college high school students (Wolk, R. A, 2005). The assumption for this study was that the selected Texas early college high schools will have institutional programs that engage students in college focused programs and also have programs that build strong relationships between students and college faculty and staff. Through these types of programs, early college high school students remain highly engaged in the educational environment, and, in turn, increase their likelihood of successfully completing the academic requirements of the early college high school program.

Research Design

This study followed a two-phase mixed method, or sequential, approach to collect

and analyze data pertaining to the selected early college high schools. A two-phase mixed methods approach is one in which "the quantitative and qualitative methods are applied one after the other (for this reason they are also called sequential design) to the same sample or to different samples in the different stages of the study" (Gelo, Braakmann, & Benetka, 2008, p. 280). The quantitative portion of the study can also be viewed as embedded in the overall qualitative study.

> The embedded design is a mixed method design where one data set provides a supportive, secondary role in a study primarily based on the other data type (Creswell et al., 2003). This design in used when researchers need to include qualitative or quantitative data to answer a research question within a largely quantitative or qualitative study. Qualitative data could be embedded within a primarily quantitative methodology (e.g. an experimental design), or quantitative data could be embedded within a primarily qualitative design (i.e. grounded theory design). (Gelo, et al., 2008, p. 282)

The goal of the mixed methods study is to "draw on the strengths and minimize the weakness of both types of research" (Connelly, 2009, p. 31). This portion of the study analyzed individual Texas Education Agency Academic Excellence Indicator System data relating to state academic assessment achievement performance, retention, and college course completion rates. The individual student data was analyzed through the SPSS statistical analysis program to derive independent sample T-test results that determine if there was a statistically significant difference between selected early college high schools and other district high schools relating to state academic assessment achievement performance, retention, and college course completion rates. A p-value of

.05 was the acceptance level used to determine the statistical significance of the data analysis.

The qualitative portion of the study followed the grounded theory approach to data analysis. Mason (1996) states that grounded theory is one "where explanation and theory are fashioned directly from the emerging analysis of the data" (p. 142). Willis (2007) describes grounded theory as "a way of developing theory through analysis of qualitative data. Through this approach, researchers work with successive waves of data to develop theory" (p. 306). First developed by Glaser and Strauss in 1967, the grounded theory of qualitative research follows what is termed as a comparative method. The steps of the comparative method that must be followed in completing a qualitative study can be summarized as:

1. Start the data collection.
2. Organize the data into units such as sentences, events, or paragraphs.
3. Associate similar units and develop categories for the data.
4. Look for links, associations, and relationships between the categories.
5. Repeat the process. (Willis, 2007, p. 307)

Through this process, emerging themes can be developed to generate explanations from the data. Willis (2007) also discusses the process of judging the theories that are generated from data analysis following the grounded theory.

> Criteria for judging the theory developed through grounded theory research have been discussed by several authors. They include
>
> Parsimony: Does it provide the simplest, most straight forward explanation that is meaningful?

- Scope: How broad is the theory? Can it be applied to a wide range of contexts?
- Overall explanatory power: How much of the situation does the theory explain? A little? A Lot?
- Degree of generalization: Does at least some of the theory seem helpful when it is applied to similar situations?
- Logical internal consistency: Does the theory hang together as a coherent whole? Are the different components logically interrelated? (pp. 307-308)

Following grounded theory and the criteria for judging theories generated from the research data, themes relating to retention and academics success strategies utilized by the selected Texas early college high school can be developed.

Analytic induction was also utilized in this research study. Analytic induction is a method in which the researcher begins with a question or problem and from the research data develops an answer to the question. Analytic induction is very similar to grounded theory, however, it is more suitable for a multi-case approach to qualitative research (Willis, 2007, p. 310). Since this research study utilized a multi-case study approach to collecting data, analytic induction was the most appropriate approach to conduct the study.

The strengths of using the grounded theory/analytic induction approach to this qualitative study were:

- They provide a way to objectively evaluate the data and allow for themes to emerge.

- Allow for a scientific approach to collect and analyze the data.
- Allows generalization to be developed for the data in its context.

The limitations of the grounded theory/analytic induction approach to qualitative research were:

- Generalizations from the data may not reflect the ideals of the entire population at the research site.
- Generalizations from the data may not reflect the ideals of all early college high schools.
- The data will only reflect the ideals from the individuals sampled in the study.

Further, this research study was a multi-case study. According to Anfara and Mertz (2006), a case study is defined by Yin (1984) as "an investigation of a contemporary social phenomenon within its real-life context, using multiple data sources" (p. 40). Thus, early college high schools in four different districts in the state of Texas were included. In order to answer the research questions, data in the form of questionnaires, focus groups, and campus generated data were gathered from several purposefully selected groups in the designated early college high schools. This data was then be analyzed to determine emerging trends in the responses obtained from the participants relating to retention, academic achievement on state assessments, and college credit course completion strategies.

Description of Sample

Texas schools listed as participants in Early College High Initiative were the pool of schools from which subjects were select for this research study. The pool of schools was further restricted to school districts that contained stand-alone early college high schools and at least two other traditional high schools. Another requirement for school selection was that the schools must have twelfth grade students enrolled on the campus. Following the above guidelines, the following school districts qualified for this research study: Dallas ISD, Carrollton-Farmers Branch ISD, Laredo ISD, Socorro ISD, and Houston ISD. Attachment #1 shows a list of the school districts and corresponding schools that will be used for this study.

Senior early college high school students on the selected campuses were the group of subjects used for this study. These groups were purposefully selected for the study because they had firsthand information on strategies that the institution utilized to ensure the retention, academic achievement on state assessments, and college credit course completion of its students. Twelfth grade students were randomly selected from each of the participating campuses to answer the questionnaire and 5 randomly selected twelfth grade students participated in the focus group. Every fifth name on the twelfth grade class roster was used as the randomly generated sample of participants for the questionnaire portion of the study. For the focus group portion of the study, the name of the student that begins each one-fifth portion of the twelfth grade class was used to participate in the focus group. Along with the data obtained from these sources, campus generated documents were analyzed for information pertaining to the academic success strategies at the selected early college high schools. All three data sources (questionnaires, focus group responses, and campus generated documents) were triangulated to validate the

trends relating to retention, academic achievement on state assessments, and college credit course completion strategies that emerge from the study.

Procedures and Data Collection

As previously stated, there were four sources of data for this study. In this section each source is described.

Academic Excellence Indicator System Reports

The Texas Education Agency publishes academic excellence indicator system reports yearly. These reports display the achievement rates of Texas public school students with regards to various indicators of academic excellence related to k-12 public education. Since individual student achievement data is protected under Family Educational Rights and Privacy Act **(**FERPA**)** regulations, permission to obtain individual student data must be obtained through the Texas Education Agency. Some of the faculty of the University of Texas at Austin Educational Administration Department were privileged to access individual student achievement data from the Texas Education Agency and assisted in obtaining permission to retrieve data relevant to this study.

Questionnaires

Students were given a questionnaire that asks six open ended questions. The questions were purposefully designed to be open ended in order to solicit the personal opinions of the participants. The questions were:

- What practices or strategies (ex: special programs, mentoring, counseling, etc.) does your campus utilize that have prevented you from dropping out of high school during the time that you have attended your campus?

- What are any other factors (during school or outside of school) that have prevented you from dropping out of high school during the time that you have attended your campus?
- What practices does your campus utilize that have promoted high academic achievement on state standardized tests (TAKS test scores) during the time that you have attended your campus?
- What are any other factors (during school or outside of school) that have promoted high academic achievement on state standardized tests (TAKS Test Scores) during the time that you have attended your campus?
- What practices does your campus utilize that have promoted college credit course completion (dual credit course completion) during the time that you have attended your campus?
- What are any other factors (during school or outside of school) that have promoted college credit course completion (dual credit course completion) during the time that you have attended your campus?

Participants entered their questionnaires responses into an online survey program entitled Zoomerang. Once the participants completed the questionnaire, student responses were downloaded and entered into Nvivo for coding and analysis.

Focus Groups

The focus groups consisted of 5 randomly selected twelfth grade students. The groups were asked the same questions that were given to the participants in the questionnaire portion of the study. Also, the focus groups were asked to clarify questions from the researcher that emerge from the analysis of the questionnaire data. The focus

group sessions were taped and transcribed. All of the information was coded to determine trends that emerged from the answers to the questions.

Along with the interview and questionnaire data, site visits were conducted and observations of strategies that are relevant to retention and academic success strategies were documented. All three data sources were triangulated to validate the trends relating to retention and academic success strategies that emerged from the study.

Campus Generated Documents

The principals from each of the selected campuses were asked to allow the researcher to review campus generated documents pertaining to campus student retention, state academic assessment achievement, and college credit course completion practices. These documents were reviewed in order to find evidence of campus practices that support the trends that emerged from the questionnaire and focus group data. With this third piece of data, the results from the study were triangulated to provide more validity.

Research Study Steps

The following research steps were completed in order to implement this research study:

- Prior to conducting the research study, the various school districts were contacted to obtain their IRB procedures. The IRB procedures were also completed for the University of Texas at Austin.
- Principals of the selected schools were contacted and solicited for their participation.

- Questionnaires were sent to the participating students using the Zoomerang online survey service.
- Relevant campus generated documents were obtained from participating campuses.
- Site visits were scheduled for the different schools. Focus groups were conducted during the same time as the site visits.

Data Analysis

As stated previously, the quantitative, individual student data, obtained through Texas Education Agency Academic Excellence Indicator System reports were analyzed through the SPSS statistical analysis program to derive independent sample T-test results that determined if there was a statistically significant difference between selected early college high schools and other district high schools relating to state academic assessment achievement performance, retention, and college course completion rates. A p-value of .05 was the acceptance level used to determine the statistical significance of the data analysis.

Qualitative data was derived from questionnaires that were sent to the participating students and instructors using the Zoomerang online survey service. Links to the questionnaire were emailed the participants at each campus. After all participants had responded, the information was downloaded and placed in a computerized qualitative analysis program.

The responses from the questionnaires, focus groups, campus document analysis were transcribed and entered into the NVivo. NVivo is a computerized qualitative analysis tool that aids the researcher in

- Managing data
- Managing ideas
- Querying data
- Graphically modeling data
- Reporting from the data (Bazeley, 2007)

Through the use of this technology, the qualitative data obtained from the study was analyzed to find emerging trends and overall meaning.

Chapter 4

Introduction

In this chapter, quantitative and qualitative data collected from several sources will be described and analyzed. The chapter will begin with the analysis of campus and individual student achievement data contained in Texas Education Agency Academic Excellence Indicator System reports. This portion of the chapter will be followed by the analysis of the qualitative data obtained from student questionnaire responses, focus group responses, and information gathered from campus generated documents.

During the process of obtaining permission to conduct research from the different school districts proposed in chapter 3, two of the schools were eliminated from the study: Mission Early College High School in the Socorro Independent School District and the Early College High School at Brookhaven College. The schools remaining in the study were Challenge Early College High School and East Early College High School in the Houston Independent School District, Trinidad "Trini" Garza Early College High School at Mountain View College in the Dallas Independent School District, and Laredo Early College High School in the Laredo Independent School District.

All of the schools included in the research study were quantitatively analyzed through campus and individual student data taken from Texas Education Agency Academic Excellence Indicator System reports. The data regarding student demographics, retention, academic achievement on state assessments, and college credit course completion of the early college high schools was compared to the same data from comparable traditional high schools in each early college high school's districts. In the case of student demographics, retention and college course completion rates, campus

percentage data from the early college high school was compared to the same data obtained from the selected traditional high schools in the early college high school's district. In the case of achievement on state academic assessments, individual student data from the selected early college high schools was compared to the selected traditional high schools in the early college high school's district using a SPSS statistical analysis. Qualitative questionnaire data was obtained from the early college high schools included in the research study. Qualitative focus group data was obtained from Challenge Early College High School and East Early College High School in the Houston Independent School District. Supporting campus documentation relating to retention, academic achievement on state assessments, and college course completion was obtained from Challenge and East Early College High Schools in the Houston Independent School District.

Quantitative Data Analysis

Campus Percentage Data Comparison of Student Demographic, Retention, and College Course Completion

The first portion of the quantitative analysis is focused on the comparison of the campus percentage data obtained from the Texas Education Agency Academic Excellence Indicator System reports. Student demographic data was directly downloaded from Academic Excellence Indicator System reports. Student retention rates were derived from annual drop-out rates and college course completion rates were derived from advanced level/dual enrollment completion rates reported in the Academic Excellence Indicator System. School percentage data reporting campus retention and college course

completion rates for the early college and traditional high schools in each of the study districts was entered into a spreadsheet. The early college retention and college course completion rates for the 2007-2008 and 2008-2009 academic years were then compared to the selected traditional high school rates to determine if the rates for the early college high schools were higher than the traditional high schools. The following results were derived from the analysis.

Dallas Independent School District

Student Demographics

The following tables display early college and traditional high school student demographic data. Student ethnicity and economic status counts and percentages were obtained from the Academic Excellence Indicator System reports for the 2007-2008, 2008-2009, and 2009-2010 academic years. The early college high schools in each chart are highlighted in yellow.

Table 1: Dallas ISD Student Demographics 2007-2008

	DISD Schools	All students Count	Black Student Count	Black Student Percentage	Disadvantaged Count	Disadvantaged Percentage	Hispanic Student Count	Hispanic Student Percentage	Native American Student Count	Native American Student Percentage	Islander Student Count	Islander Student Percentage	White Student Count	White Student Percentage
57905001	BRYAN ADAMS HIG	1667	411	24.7	1157	69.4	1051	63	6	0.4	44	2.6	155	9.3
57905002	W H ADAMSON HIG	1272	59	4.6	993	78.1	1196	94	3	0.2	2	0.2	12	0.9
57905003	A MACEO SMITH H	1089	906	83.2	915	84	171	15.7	0	0	1	0.1	11	1
57905005	MOISES E MOLINA	1845	130	7	1478	80.1	1663	90.1	12	0.7	15	0.8	25	1.4
57905006	HILLCREST H S	1102	299	27.1	597	54.2	602	54.6	3	0.3	19	1.7	179	16.2
57905007	THOMAS JEFFERSO	1288	59	4.6	1123	87.2	1211	94	0	0	4	0.3	14	1.1
57905008	JUSTIN F KIMBAL	1510	799	52.9	1107	73.3	687	45.5	3	0.2	6	0.4	15	1
57905009	LINCOLN HUMANIT	1019	936	91.9	830	81.5	79	7.8	1	0.1	1	0.1	2	0.2
57905012	L G PINKSTON HI	1186	434	36.6	878	74	739	62.3	3	0.3	3	0.3	7	0.6
57905013	FRANKLIN D ROOS	779	628	80.6	570	73.2	147	18.9	1	0.1	0	0	3	0.4
57905014	W W SAMUELL H S	1917	782	40.8	1555	81.1	1097	57.2	2	0.1	2	0.1	34	1.8
57905015	SEAGOVILLE H S	1180	267	22.6	757	64.2	519	44	5	0.4	4	0.3	385	32.6
57905016	SOUTH OAK CLIFF	1380	1043	75.6	1098	79.6	328	23.8	1	0.1	1	0.1	7	0.5
57905017	H GRADY SPRUCE	1615	617	38.2	1244	77	965	59.8	2	0.1	1	0.1	30	1.9
57905018	SUNSET HIGH SCH	2278	48	2.1	1613	70.8	2182	95.8	13	0.6	2	0.1	33	1.4
57905021	W T WHITE HIGH	2381	379	15.9	1466	61.6	1624	68.2	3	0.1	47	2	328	13.8
57905022	WOODROW WILSON	1386	169	12.2	750	54.1	940	67.8	8	0.6	20	1.4	249	18
57905023	DAVID W CARTER	1441	1234	85.6	935	64.9	196	13.6	0	0	3	0.2	8	0.6
57905024	NORTH DALLAS HI	1517	259	17.1	1237	81.5	1157	76.3	7	0.5	71	4.7	23	1.5
57905025	SKYLINE HIGH SC	5094	1655	32.5	3547	69.6	3289	64.6	8	0.2	56	1.1	86	1.7
57905028	EMMETT J CONRAD	909	321	35.3	786	86.5	529	58.2	0	0	27	3	32	3.5
57905032	JAMES MADISON H	518	423	81.7	408	78.8	94	18.1	1	0.2	0	0	0	0
57905034	BOOKER T WASHIN	701	196	28	188	26.8	179	25.5	10	1.4	18	2.6	298	42.5
57905088	TRINIDAD GARZA	208	34	16.3	178	85.6	170	81.7	1	0.5	0	0	3	1.4

Table 2: Dallas ISD Student Demographics 2008-2009

	DISD Schools	All students Count	Black Student Count	Black Student Percentage	Disadvantaged Count	Disadvantaged Percentage	Hispanic Student Count	Hispanic Student Percentage	Native American Student Count	Native American Student Percentage	Islander Student Count	Islander Student Percentage	White Student Count	White Student Percentage
57905001	BRYAN ADAMS HIG	1764	411	23.3	1318	74.7	1134	64.3	9	0.5	60	3.4	150	8.5
57905002	W H ADAMSON HIG	1316	67	5.1	1074	81.6	1236	93.9	3	0.2	2	0.2	8	0.6
57905003	A MACEO SMITH H	949	771	81.2	777	81.9	162	17.1	2	0.2	1	0.1	13	1.4
57905005	MOISES E MOLINA	1803	126	7	1422	78.9	1634	90.6	7	0.4	8	0.4	28	1.6
57905006	HILLCREST H S	1260	322	25.6	727	57.7	728	57.8	4	0.3	16	1.3	190	15.1
57905007	THOMAS JEFFERSO	1213	43	3.5	1069	88.1	1158	95.5	0	0	3	0.2	9	0.7
57905008	JUSTIN F KIMBAL	1411	692	49	1087	77	701	49.7	3	0.2	6	0.4	9	0.6
57905009	LINCOLN HUMANIT	1254	1011	80.6	1054	84.1	238	19	2	0.2	1	0.1	2	0.2
57905012	L G PINKSTON HI	1114	369	33.1	869	78	733	65.8	1	0.1	6	0.5	5	0.4
57905013	FRANKLIN D ROOS	783	641	81.9	621	79.3	139	17.8	0	0	0	0	3	0.4
57905014	W W SAMUELL H S	2021	791	39.1	1642	81.2	1203	59.5	1	0	1	0	25	1.2
57905015	SEAGOVILLE H S	1133	253	22.3	821	72.5	551	48.6	6	0.5	4	0.4	319	28.2
57905016	SOUTH OAK CLIFF	1376	1054	76.6	1017	73.9	314	22.8	0	0	0	0	8	0.6
57905017	H GRADY SPRUCE	630	209	33.2	531	84.3	408	64.8	0	0	0	0	13	2.1
57905018	SUNSET HIGH SCH	2298	39	1.7	1732	75.4	2208	96.1	10	0.4	6	0.3	35	1.5
57905021	W T WHITE HIGH	2323	341	14.7	1581	68.1	1658	71.4	4	0.2	39	1.7	281	12.1
57905022	WOODROW WILSON	1430	158	11	800	55.9	1002	70.1	14	1	15	1	241	16.9
57905023	DAVID W CARTER	1412	1173	83.1	1006	71.2	226	16	1	0.1	3	0.2	9	0.6
57905024	NORTH DALLAS HI	1484	241	16.2	1191	80.3	1150	77.5	2	0.1	70	4.7	21	1.4
57905025	SKYLINE HIGH SC	4572	1359	29.7	3448	75.4	3076	67.3	9	0.2	48	1	80	1.7
57905028	EMMETT J CONRAD	1292	451	34.9	1117	86.5	722	55.9	0	0	72	5.6	47	3.6
57905032	JAMES MADISON H	818	534	65.3	646	79	273	33.4	2	0.2	1	0.1	8	1
57905034	BOOKER T WASHIN	712	191	26.8	209	29.4	188	26.4	11	1.5	16	2.2	306	43
57905088	TRINIDAD GARZA	282	29	10.3	220	78	245	86.9	2	0.7	1	0.4	5	1.8

Table 3: Dallas ISD Student Demographics 2009-2010

	DISD Schools	All students Count	Black Student Count	Black Student Percentage	Disadvantaged Count	Disadvantaged Percentage	Hispanic Student Count	Hispanic Student Percentage	Native American Student Count	Native American Student Percentage	Islander Student Count	Islander Student Percentage	White Student Count	White Student Percentage
57905001	BRYAN ADAMS HIG	1851	369	19.9	1398	75.5	1242	67.1	8	0.4	77	4.2	155	8.4
57905002	W H ADAMSON HIG	1334	58	4.3	1101	82.5	1263	94.7	4	0.3	2	0.1	7	0.5
57905003	A MACEO SMITH H	863	667	77.3	712	82.5	182	21.1	2	0.2	0	0	12	1.4
57905005	MOISES E MOLINA	1699	80	4.7	1397	82.2	1586	93.3	3	0.2	8	0.5	22	1.3
57905006	HILLCREST H S	1226	325	26.5	722	58.9	694	56.6	5	0.4	22	1.8	180	14.7
57905007	THOMAS JEFFERSO	1366	64	4.7	1159	84.8	1282	93.9	1	0.1	7	0.5	12	0.9
57905008	JUSTIN F KIMBAL	1331	607	45.6	1007	75.7	708	53.2	1	0.1	7	0.5	8	0.6
57905009	LINCOLN HUMANIT	1027	816	79.5	779	75.9	204	19.9	1	0.1	0	0	6	0.6
57905012	L G PINKSTON HI	1121	367	32.7	893	79.7	733	65.4	2	0.2	11	1	8	0.7
57905013	FRANKLIN D ROOS	719	566	78.7	541	75.2	150	20.9	0	0	0	0	3	0.4
57905014	W W SAMUELL H S	2059	740	35.9	1680	81.6	1294	62.8	2	0.1	4	0.2	19	0.9
57905015	SEAGOVILLE H S	1107	253	22.9	790	71.4	557	50.3	5	0.5	4	0.4	288	26
57905016	SOUTH OAK CLIFF	1212	933	77	929	76.7	277	22.9	0	0	0	0	2	0.2
57905017	H GRADY SPRUCE	737	210	28.5	673	91.3	509	69.1	0	0	0	0	18	2.4
57905018	SUNSET HIGH SCH	2370	32	1.4	1813	76.5	2294	96.8	6	0.3	3	0.1	35	1.5
57905021	W T WHITE HIGH	2266	284	12.5	1589	70.1	1683	74.3	3	0.1	42	1.9	254	11.2
57905022	WOODROW WILSON	1399	145	10.4	786	56.2	1000	71.5	12	0.9	21	1.5	221	15.8
57905023	DAVID W CARTER	1387	1123	81	1000	72.1	254	18.3	1	0.1	1	0.1	8	0.6
57905024	NORTH DALLAS HI	1543	240	15.6	1181	76.5	1221	79.1	1	0.1	57	3.7	24	1.6
57905025	SKYLINE HIGH SC	4697	1377	29.3	3508	74.7	3201	68.1	6	0.1	51	1.1	62	1.3
57905028	EMMETT J CONRAD	1285	375	29.2	1103	85.8	722	56.2	1	0.1	141	11	46	3.6
57905032	JAMES MADISON H	747	530	71	552	73.9	209	28	1	0.1	2	0.3	5	0.7
57905034	BOOKER T WASHIN	793	201	25.3	215	27.1	203	25.6	3	0.4	14	1.8	372	46.9
57905088	TRINIDAD GARZA	377	50	13.3	324	85.9	316	83.8	2	0.5	2	0.5	7	1.9

Table 4: Houston ISD Student Demographics 2007-2008

	HISD Schools	All students Count	Black Student Count	Black Student Percentage	Economically Disadvantaged Count	Economically Disadvantaged Percentage	Hispanic Student Count	Hispanic Student Percentage	Native American Student Count	Native American Student Percentage	Asian/Pacific Islander Student Count	Asian/Pacific Islander Student Percentage	White Student Count	White Student Percentage
101912001	AUSTIN H S	1895	61	3.2	1702	89.8	1812	95.6	1	0.1	4	0.2	17	0.9
101912002	BELLAIRE H S	3352	496	14.8	939	28	957	28.6	6	0.2	633	18.9	1260	37.6
101912003	DAVIS H S	1617	178	11	1380	85.3	1417	87.6	0	0	2	0.1	20	1.2
101912004	FURR H S	893	225	25.2	750	84	635	71.1	0	0	3	0.3	30	3.4
101912006	JONES H S	842	584	69.4	633	75.2	253	30	0	0	3	0.4	2	0.2
101912007	KASHMERE H S	528	461	87.3	479	90.7	67	12.7	0	0	0	0	0	0
101912008	LAMAR H S	3289	954	29	1380	42	1069	32.5	8	0.2	146	4.4	1112	33.8
101912010	MADISON H S	2338	1259	53.8	1698	72.6	1051	45	2	0.1	13	0.6	13	0.6
101912011	MILBY H S	2189	85	3.9	1605	73.3	2059	94.1	1	0	27	1.2	17	0.8
101912012	REAGAN H S	1574	119	7.6	1178	74.8	1381	87.7	0	0	7	0.4	67	4.3
101912014	STERLING H S	1119	824	73.6	846	75.6	277	24.8	2	0.2	5	0.4	11	1
101912015	WALTRIP H S	1775	258	14.5	1169	65.9	1207	68	1	0.1	17	1	292	16.5
101912016	WASHINGTON B T	966	767	79.4	668	69.2	170	17.6	2	0.2	4	0.4	23	2.4
101912017	WESTBURY H S	1942	945	48.7	1281	66	840	43.3	0	0	76	3.9	81	4.2
101912018	WHEATLEY H S	1239	761	61.4	920	74.3	470	37.9	0	0	6	0.5	2	0.2
101912019	WORTHING H S	1022	930	91	668	65.4	79	7.7	2	0.2	2	0.2	9	0.9
101912020	YATES H S	1333	1202	90.2	883	66.2	125	9.4	0	0	5	0.4	1	0.1
101912023	SHARPSTOWN H S	1525	463	30.4	1219	79.9	939	61.6	1	0.1	83	5.4	39	2.6
101912024	SCARBOROUGH H S	780	223	28.6	616	79	471	60.4	1	0.1	9	1.2	76	9.7
101912025	PERFOR & VIS AR	647	153	23.6	109	16.8	107	16.5	0	0	20	3.1	367	56.7
101912027	CHAVEZ H S	2373	276	11.6	1915	80.7	1979	83.4	3	0.1	70	2.9	45	1.9
101912029	CONTEMPORARY LR	522	312	59.8	345	66.1	203	38.9	0	0	1	0.2	6	1.1
101912033	BARBARA JORDAN	1158	652	56.3	861	74.4	489	42.2	0	0	7	0.6	10	0.9
101912034	LAW ENFCMT-CRIM	639	157	24.6	475	74.3	447	70	1	0.2	4	0.6	30	4.7
101912036	WESTSIDE HIGH SCHOOL	2940	930	31.6	1215	41.3	862	29.3	4	0.1	259	8.8	885	30.1
101912310	SAMUEL HOUSTON HIGH SCHOOL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
101912322	CARNEGIE VANGUA	371	79	21.3	115	31	106	28.6	0	0	19	5.1	167	45
101912323	CHALLENGE EARLY	404	85	21	205	50.7	210	52	2	0.5	18	4.5	89	22
101912324	LIBERTY HIGH SCHOOL	166	14	8.4	153	92.2	149	89.8	0	0	3	1.8	0	0
101912325	EMPOWERMENT COLLEGE PREP HIGH SCHOOL	133	124	93.2	93	69.9	8	6	0	0	1	0.8	0	0
101912345	EAST EARLY COLL	217	10	4.6	181	83.4	189	87.1	0	0	14	6.5	4	1.8

Table 5: Houston ISD Student Demographics 2008-2009

	HISD Schools	All students Count	Black Student Count	Black Student Percentage	Economically Disadvantaged Count	Economically Disadvantaged Percentage	Hispanic Student Count	Hispanic Student Percentage	Native American Student Count	Native American Student Percentage	Asian/Pacific Islander Student Count	Asian/Pacific Islander Student Percentage	White Student Count	White Student Percentage
101912001	AUSTIN H S	1920	69	3.6	1750	91.1	1828	95.2	1	0.1	6	0.3	16	0.8
101912002	BELLAIRE H S	3425	580	16.9	1082	31.6	1019	29.8	7	0.2	618	18	1201	35.1
101912003	DAVIS H S	1615	164	10.2	1439	89.1	1431	88.6	0	0	3	0.2	17	1.1
101912004	FURR H S	881	194	22	758	86	653	74.1	1	0.1	5	0.6	28	3.2
101912006	JONES H S	822	597	72.6	663	80.7	219	26.6	0	0	3	0.4	3	0.4
101912007	KASHMERE H S	584	503	86.1	538	92.1	76	13	0	0	2	0.3	3	0.5
101912008	LAMAR H S	3000	811	27	1320	44	1016	33.9	1	0	156	5.2	1016	33.9
101912010	MADISON H S	2368	1233	52.1	1839	77.7	1113	47	1	0	13	0.5	8	0.3
101912011	MILBY H S	2225	74	3.3	1868	84	2115	95.1	0	0	21	0.9	15	0.7
101912012	REAGAN H S	1730	141	8.2	1410	81.5	1503	86.9	0	0	6	0.3	80	4.6
101912014	STERLING H S	1067	801	75.1	854	80	248	23.2	1	0.1	2	0.2	15	1.4
101912015	WALTRIP H S	1794	248	13.8	1303	72.6	1241	69.2	2	0.1	17	0.9	286	15.9
101912016	WASHINGTON B T	902	704	78	662	73.4	170	18.8	2	0.2	2	0.2	24	2.7
101912017	WESTBURY H S	2000	950	47.5	1474	73.7	890	44.5	0	0	80	4	80	4
101912018	WHEATLEY H S	1150	745	64.8	1061	92.3	400	34.8	0	0	2	0.2	3	0.3
101912019	WORTHING H S	1012	924	91.3	780	77.1	80	7.9	1	0.1	2	0.2	5	0.5
101912020	YATES H S	1252	1145	91.5	926	74	95	7.6	0	0	9	0.7	3	0.2
101912023	SHARPSTOWN H S	1454	430	29.6	1209	83.1	897	61.7	3	0.2	78	5.4	46	3.2
101912024	SCARBOROUGH H S	725	209	28.8	593	81.8	445	61.4	0	0	8	1.1	63	8.7
101912025	PERFOR & VIS AR	649	149	23	116	17.9	116	17.9	0	0	28	4.3	356	54.9
101912027	CHAVEZ H S	2606	317	12.2	2227	85.5	2153	82.6	5	0.2	83	3.2	48	1.8
101912029	CONTEMPORARY LR	514	292	56.8	438	85.2	210	40.9	1	0.2	3	0.6	8	1.6
101912033	BARBARA JORDAN	1152	620	53.8	933	81	517	44.9	0	0	4	0.3	11	1
101912034	LAW ENFCMT-CRIM	601	155	25.8	459	76.4	417	69.4	0	0	2	0.3	27	4.5
101912036	WESTSIDE HIGH SCHOOL	2945	944	32.1	1350	45.8	914	31	6	0.2	256	8.7	825	28
101912310	SAMUEL HOUSTON HIGH SCHOOL	1510	74	4.9	1332	88.2	1401	92.8	0	0	3	0.2	32	2.1
101912322	CARNEGIE VANGUA	399	77	19.3	115	28.8	121	30.3	0	0	29	7.3	172	43.1
101912323	CHALLENGE EARLY	411	84	20.4	240	58.4	226	55	2	0.5	20	4.9	79	19.2
101912324	LIBERTY HIGH SCHOOL	219	16	7.3	201	91.8	203	92.7	0	0	0	0	0	0
101912325	EMPOWERMENT COLLEGE PREP HIGH SCHOOL	67	61	91	44	65.7	5	7.5	0	0	1	1.5	0	0
101912345	EAST EARLY COLL	320	17	5.3	265	82.8	276	86.3	0	0	18	5.6	9	2.8

Table 6: Houston ISD Student Demographics 2009-2010

	HISD Schools	All students Count	Black Student Count	Black Student Percentage	Disadvantaged Count	Disadvantaged Percentage	Hispanic Student Count	Hispanic Student Percentage	Native American Student Count	Student Percentage	Islander Student Count	Islander Student Percentage	White Student Count	White Student Percentage
101912001	AUSTIN H S	1927	59	3.1	1824	94.7	1846	95.8	3	0.2	5	0.3	14	0.7
101912002	BELLAIRE H S	3355	572	17	1082	32.3	1093	32.6	6	0.2	555	16.5	1129	33.7
101912003	DAVIS H S	1584	167	10.5	1465	92.5	1402	88.5	0	0	3	0.2	12	0.8
101912004	FURR H S	852	175	20.5	786	92.3	642	75.4	1	0.1	3	0.4	31	3.6
101912006	JONES H S	696	489	70.3	533	76.6	203	29.2	0	0	2	0.3	2	0.3
101912007	KASHMERE H S	593	483	81.5	553	93.3	106	17.9	0	0	0	0	4	0.7
101912008	LAMAR H S	2984	808	27.1	1320	44.2	1030	34.5	1	0	142	4.8	1003	33.6
101912010	MADISON H S	2282	1115	48.9	1665	73	1145	50.2	1	0	12	0.5	9	0.4
101912011	MILBY H S	2164	60	2.8	1709	79	2071	95.7	0	0	17	0.8	16	0.7
101912012	REAGAN H S	1846	162	8.8	1375	74.5	1590	86.1	1	0.1	8	0.4	85	4.6
101912014	STERLING H S	1060	788	74.3	783	73.9	262	24.7	2	0.2	2	0.2	6	0.6
101912015	WALTRIP H S	1758	245	13.9	1256	71.4	1252	71.2	2	0.1	8	0.5	251	14.3
101912016	WASHINGTON B T	960	704	73.3	716	74.6	221	23	2	0.2	8	0.8	25	2.6
101912017	WESTBURY H S	2096	923	44	1481	70.7	984	46.9	4	0.2	113	5.4	72	3.4
101912018	WHEATLEY H S	1067	656	61.5	915	85.8	406	38.1	0	0	2	0.2	3	0.3
101912019	WORTHING H S	1017	929	91.3	778	76.5	81	8	1	0.1	2	0.2	4	0.4
101912020	YATES H S	1213	1116	92	644	53.1	88	7.3	0	0	6	0.5	3	0.2
101912023	SHARPSTOWN H S	1249	345	27.6	1110	88.9	823	65.9	0	0	50	4	31	2.5
101912024	SCARBOROUGH H S	706	220	31.2	565	80	430	60.9	2	0.3	8	1.1	46	6.5
101912025	PERFOR & VIS AR	638	153	24	110	17.2	140	21.9	1	0.2	32	5	312	48.9
101912027	CHAVEZ H S	2763	345	12.5	2172	78.6	2289	82.8	3	0.1	90	3.3	36	1.3
101912029	CONTEMPORARY LR	534	330	61.8	409	76.6	192	36	1	0.2	8	1.5	3	0.6
101912033	BARBARA JORDAN	1153	609	52.8	877	76.1	533	46.2	5	0.4	2	0.2	4	0.3
101912034	LAW ENFCMT-CRIM	561	149	26.6	429	76.5	390	69.5	0	0	3	0.5	19	3.4
101912036	WESTSIDE HIGH SCHOOL	2954	991	33.5	1253	42.4	972	32.9	9	0.3	237	8	745	25.2
101912310	SAMUEL HOUSTON HIGH SCHOOL	1710	81	4.7	1456	85.1	1587	92.8	1	0.1	4	0.2	37	2.2
101912322	CARNEGIE VANGUA	426	91	21.4	110	25.8	112	26.3	0	0	32	7.5	191	44.8
101912323	CHALLENGE EARLY	440	91	20.7	264	60	264	60	0	0	21	4.8	64	14.5
101912324	LIBERTY HIGH SCHOOL	239	11	4.6	226	94.6	226	94.6	0	0	1	0.4	1	0.4
101912325	EMPOWERMENT COLLEGE PREP HIGH SCHOOL	30	30	100	18	60	0	0	0	0	0	0	0	0
101912345	EAST EARLY COLL	416	19	4.6	357	85.8	371	89.2	0	0	17	4.1	9	2.2

Table 7: Laredo ISD Student Demographics 2007-2008

LISD Schools		All students Count	Black Student Count	Black Student Percentage	Economically Disadvantaged Count	Economically Disadvantaged Percentage	Hispanic Student Count	Hispanic Student Percentage	Native American Student Count	Native American Student Percentage	Asian/Pacific Islander Student Count	Asian/Pacific Islander Student Percentage	White Student Count	White Student Percentage
240901001	MARTIN H S	1996	3	0.2	1960	98.2	1980	99.2	0	0	0	0	13	0.7
240901002	NIXON H S	2028	1	0	1876	92.5	2003	98.8	1	0	3	0.1	20	1
240901003	DR LEO CIGARROA	1612	1	0.1	1546	95.9	1608	99.8	0	0	0	0	3	0.2
240901008	EARLY COLLEGE H	201	0	0	190	94.5	194	96.5	0	0	2	1	5	2.5

Table 8: Laredo ISD Student Demographics 2008-2009

LISD Schools		All students Count	Black Student Count	Black Student Percentage	Economically Disadvantaged Count	Economically Disadvantaged Percentage	Hispanic Student Count	Hispanic Student Percentage	Native American Student Count	Native American Student Percentage	Asian/Pacific Islander Student Count	Asian/Pacific Islander Student Percentage	White Student Count	White Student Percentage
240901001	MARTIN H S	1962	2	0.1	1900	96.8	1949	99.3	0	0	0	0	11	0.6
240901002	NIXON H S	2007	1	0	1831	91.2	1986	99	0	0	3	0.1	17	0.8
240901003	DR LEO CIGARROA	1591	0	0	1591	100	1590	99.9	0	0	0	0	1	0.1
240901008	EARLY COLLEGE H	302	0	0	286	94.7	294	97.4	0	0	2	0.7	6	2

Table 9: Laredo ISD Student Demographics 2009-2010

LISD Schools		All students Count	Black Student Count	Black Student Percentage	Disadvantaged Count	Disadvantaged Percentage	Hispanic Student Count	Hispanic Student Percentage	Native American Student Count	Native American Student Percentage	Islander Student Count	Islander Student Percentage	White Student Count	White Student Percentage
240901001	MARTIN H S	1824	2	0.1	1765	96.8	1814	99.5	0	0	1	0.1	7	0.4
240901002	NIXON H S	1965	0	0	1812	92.2	1950	99.2	0	0	1	0.1	14	0.7
240901003	DR LEO CIGARROA	1522	0	0	1522	100	1522	100	0	0	0	0	0	0
240901008	EARLY COLLEGE H	381	0	0	360	94.5	372	97.6	0	0	3	0.8	6	1.6

Academic Excellence Indicator System report data indicates that all of the selected early college high schools in each of the districts maintain high populations of minority and economically disadvantaged students.

Retention and College Credit Course Completion

The following charts display the selected early college and traditional high school annual drop-out, completion, and advanced level/dual enrollment completion rates for the 2007-2008, 2008-2009, and 2009-2010 academic years. The early college high schools in each chart are highlighted in yellow.

Table 10: Dallas ISD Annual Drop-Out, Completion, and Advanced Level/Dual Enrollment Completion Rates 2007-2008 and 2008-2009

	DISD Schools	07-08 Annual Drop-out Rate (9-12)	Class of 2008 Completion Rate II w/GED	Class of 2008 Completion Rate I w/o GED	07-08 Advanced Level/Dual Enrollment Completion	08-09 Annual Drop-out Rate (9-12)	Class of 2009 Completion Rate II w/GED	Class of 2009 Completion Rate I w/o GED	08-09 Advanced Level/Dual Enrollment Completion
579050 01	BRYAN ADAMS HIG	6.10%	69.00%	67.20%	19.10%	5.30%	75.10%	74.60%	20.50%
579050 02	W H ADAMSON HIG	5.00%	83.40%	83.10%	19.00%	4.60%	82.90%	82.90%	28.20%
579050 03	A MACEO SMITH H	9.50%	67.40%	66.30%	15.50%	6.70%	70.40%	69.60%	15.70%
579050 05	MOISES E MOLINA	4.50%	85.40%	84.70%	16.70%	5.20%	82.90%	82.00%	22.90%
579050 06	HILLCREST H S	4.30%	82.90%	81.10%	22.90%	4.10%	77.70%	77.70%	24.10%
579050 07	THOMAS JEFFERSO	6.40%	74.90%	74.30%	29.70%	4.40%	76.40%	76.40%	24.80%
579050 08	JUSTIN F KIMBAL	4.70%	79.20%	78.60%	22.70%	4.00%	85.60%	84.60%	19.10%
579050 09	LINCOLN HUMANIT	4.40%	81.30%	81.30%	24.90%	6.60%	79.00%	78.40%	24.90%
579050 12	L G PINKSTON HI	9.00%	63.90%	63.50%	6.40%	6.70%	79.60%	78.50%	8.20%
579050 13	FRANKLIN D ROOS	7.10%	69.30%	69.30%	18.50%	5.60%	77.90%	77.90%	18.40%
579050 14	W W SAMUELL H S	9.10%	69.10%	67.20%	20.00%	7.80%	71.60%	71.60%	19.50%
579050 15	SEAGOVILLE H S	4.90%	81.20%	78.40%	11.40%	4.50%	80.10%	80.10%	13.90%
579050 16	SOUTH OAK CLIFF	5.40%	79.80%	79.80%	15.50%	6.00%	78.30%	78.30%	16.60%
579050 17	H GRADY SPRUCE	12.00 %	55.70%	53.80%	10.90%	8.30%	No Data Displaye d	No Data Displayed	13.70%
579050 18	SUNSET HIGH SCH	6.00%	81.50%	80.60%	12.70%	6.00%	79.30%	79.30%	18.20%
579050 21	W T WHITE HIGH	3.80%	85.40%	84.50%	32.50%	3.40%	87.10%	87.10%	32.80%
579050 22	WOODROW WILSON	3.60%	83.60%	82.10%	19.90%	2.90%	86.10%	86.10%	25.00%
579050 23	DAVID W CARTER	6.30%	77.60%	76.70%	20.40%	5.60%	75.50%	75.20%	27.00%
579050 24	NORTH DALLAS HI	6.40%	72.10%	71.90%	14.20%	5.50%	79.30%	78.20%	26.30%
579050 25	SKYLINE HIGH SC	4.20%	83.40%	82.40%	24.40%	3.10%	87.20%	87.20%	27.40%
579050 28	EMMETT J CONRAD	6.50%	No Data Displayed	No Data Displayed	9.10%	3.30%	No Data Displaye d	No Data Displayed	20.50%
579050 32	JAMES MADISON H	2.60%	81.50%	81.50%	18.40%	3.30%	78.70%	78.10%	18.40%
579050 34	BOOKER T WASHIN	0.00%	99.40%	99.40%	40.70%	0.30%	99.40%	99.40%	49.30%
579050 88	TRINIDAD GARZA	0.00%	No Data Displayed	No Data Displayed	52.20%	0.30%	No Data Displaye d	No Data Displayed	90.50%

Table 11: Houston ISD Annual Drop-out, Completion, and Advanced Level/Dual Enrollment Completion Rates 2007-2008 and 2008-2009

	HISD Schools	07-08 Annual Drop-out Rate (9-12)	Class of 2008 Completion Rate II w/GED	Class of 2008 Completion Rate I w/o GED	07-08 Advanced Level/Dual Enrollment Completion	08-09 Annual Drop-out Rate (9-12)	Class of 2009 Completion Rate II w/GED	Class of 2009 Completion Rate I w/o GED	08-09 Advanced Level/Dual Enrollment Completion
101912001	AUSTIN H S	3.70%	84.10%	83.30%	23.40%	1.60%	87.40%	86.60%	23.00%
101912002	BELLAIRE H S	1.90%	93.50%	92.90%	38.40%	1.70%	93.80%	93.10%	35.10%
101912003	DAVIS H S	1.80%	91.50%	90.30%	29.40%	0.90%	91.70%	90.70%	32.00%
101912004	FURR H S	1.60%	89.20%	88.60%	12.90%	2.40%	90.60%	89.40%	15.20%
101912006	JONES H S	6.80%	70.90%	70.90%	15.30%	5.90%	75.00%	74.60%	17.50%
101912007	KASHMERE H S	6.20%	62.10%	61.40%	9.70%	0.90%	84.40%	84.40%	12.90%
101912008	LAMAR H S	1.50%	92.50%	92.40%	30.40%	1.40%	94.90%	93.90%	31.20%
101912010	MADISON H S	2.80%	81.70%	80.40%	17.40%	3.50%	79.50%	78.90%	22.70%
101912011	MILBY H S	4.00%	86.90%	86.70%	24.80%	4.60%	84.90%	84.90%	17.00%
101912012	REAGAN H S	3.20%	85.40%	83.80%	21.90%	2.00%	90.20%	88.90%	21.30%
101912014	STERLING H S	2.60%	83.10%	82.60%	17.60%	1.90%	86.60%	86.60%	15.60%
101912015	WALTRIP H S	3.00%	87.90%	86.60%	21.70%	2.60%	89.70%	88.70%	25.80%
101912016	WASHINGTON B T	2.60%	89.90%	89.40%	27.60%	2.10%	90.80%	90.30%	22.20%
101912017	WESTBURY H S	4.80%	76.80%	76.40%	18.00%	3.10%	83.20%	82.10%	16.30%
101912018	WHEATLEY H S	2.90%	83.30%	82.90%	31.70%	1.90%	86.40%	86.10%	21.50%
101912019	WORTHING H S	3.40%	73.90%	73.90%	14.60%	4.40%	80.90%	78.90%	15.10%
101912020	YATES H S	6.70%	82.20%	81.90%	18.60%	6.00%	83.50%	81.30%	15.30%
101912023	SHARPSTOWN H S	5.50%	63.60%	62.70%	14.30%	3.40%	68.50%	68.20%	19.40%
101912024	SCARBOROUGH H S	2.40%	82.70%	82.20%	15.10%	2.40%	88.90%	88.30%	14.80%
101912025	PERFOR & VIS AR	0.20%	99.40%	98.80%	61.70%	0.00%	100.00 %	98.60%	62.20%
101912027	CHAVEZ H S	4.00%	82.90%	82.50%	20.40%	3.90%	82.40%	82.20%	19.80%
101912029	CONTEMPORARY LR	7.70%	53.80%	52.60%	0.00%	9.20%	65.80%	65.10%	0.00%
101912033	BARBARA JORDAN	1.40%	92.40%	92.40%	31.80%	1.40%	92.70%	92.20%	33.20%
101912034	LAW ENFCMT-CRIM	0.90%	98.20%	98.20%	38.10%	0.50%	98.10%	96.80%	40.60%
101912036	WESTSIDE HIGH SCHOOL	2.00%	88.90%	88.60%	39.20%	1.90%	89.70%	88.80%	40.10%
101912310	SAMUEL HOUSTON HIGH SCHOOL	No Data	No Data	No Data	No Data	0.50%	No Data	No Data	19.50%
101912322	CARNEGIE VANGUA	0.00%	100.00 %	100.00 %	63.00%	0.00%	100.00 %	100.00 %	66.20%
101912323	CHALLENGE EARLY	1.50%	95.70%	94.30%	60.90%	0.20%	98.90%	98.90%	61.90%
101912324	LIBERTY HIGH SCHOOL	29.70%	No Data	No Data	13.10%	26.10 %	No Data	No Data	9.10%
101912325	EMPOWERMENT COLLEGE PREP HS	0.70%	No Data	No Data	40.80%	0.00%	No Data	No Data	79.10%
101912345	EAST EARLY COLL	0.00%	No Data	No Data	50.20%	0.00%	No Data	No Data	83.80%

Table 12: Laredo ISD Annual Drop-out, Completion, and Advanced Level/Dual Enrollment Completion Rates 2007-2008 and 2008-2009

	LISD Schools	07-08 Annual Drop-out Rate (9-12)	Class of 2008 Completion Rate II w/GED	Class of 2008 Completion Rate I w/o GED	07-08 Advanced Level/Dual Enrollment Completion	08-09 Annual Drop-out Rate (9-12)	Class of 2009 Completion Rate II w/GED	Class of 2009 Completion Rate I w/o GED	08-09 Advanced Level/Dual Enrollment Completion
240901001	MARTIN H S	2.00%	85.60%	84.10%	17.20%	3.00%	87.90%	87.00%	18.50%
240901002	NIXON H S	1.60%	92.00%	91.20%	42.30%	3.40%	86.80%	86.50%	19.80%
240901003	DR LEO CIGARROA	2.40%	87.00%	86.40%	31.60%	4.10%	83.90%	83.60%	14.80%
240901008	EARLY COLLEGE H	0.00%	No Data	No Data	99.50%	0.00%	No Data	No Data	99.30%

Dallas Independent School District

Retention

During the 2007–2008 academic year, the annual drop-out rates for the early college and selected traditional high schools ranged from 0.0% to 12.0%. The early college high school in the Dallas Independent School District was reported to have one of the lowest annual drop-out rates compared to the selected traditional high schools. The displayed rate of 0.0% for the Dallas Independent School District early college high school was tied with one other traditional high school, but was the lowest rate of the selected high schools in this study.

During the 2008–2009 academic year, the annual drop-out rates for the early college and selected traditional high schools ranged from 0.3% to 8.3%. The early college

high school in the Dallas Independent School District was reported to have one of the lowest annual drop-out rates compared to the selected traditional high schools. The displayed rate of 0.3% for the Dallas Independent School District early college high school was tied with one other traditional high school, but was the lowest rate of the selected high schools in this study.

College Course Completion

During the 2007–2008 academic year, the advanced level/dual enrollment completion rate for the Dallas Independent School District ranged from 6.4% to 52.2%. The early college high school in the Dallas Independent School District was reported to have the highest advanced level/dual enrollment rate compared to the selected traditional high schools. The early college high school had a reported rate of 52.2% of its student body completing advanced level/dual enrollment courses during that academic year.

During the 2008–2009 academic year, the advanced level/dual enrollment completion rate for the Dallas Independent School District ranged from 8.2% to 90.5%. The early college high school in the Dallas Independent School District was reported to have the highest advanced level/dual enrollment rate compared to the selected traditional high schools. The early college high school had a reported rate of 90.5% of its student body completing advanced level/dual enrollment coursed during that academic year.

Houston Independent School District

Retention

During the 2007–2008 academic year, the annual drop-out rates for the early college and selected traditional high schools in the Houston Independent School District ranged from 0.0% to 29.7%. The early college high schools in the Houston Independent School District were reported to have the first and fourth lowest annual drop-out rates compared to the selected traditional high schools. East Early College High School shared the lowest annual drop-out rate of 0.0% with the traditional high school Carnegie Vanguard High School. Challenge Early College High School was reported as having the fourth lowest annual drop-out rate percentage of 1.5%.

During the 2008–2009 academic year, the annual drop-out rates for the early college and selected traditional high schools in the Houston Independent School District ranged from 0.0% to 26.1%. The early college high schools in the Houston Independent School District were reported to have the first and second lowest annual drop-out rates compared to the selected traditional high schools. East Early College High School shared the lowest annual drop-out rate of 0.0% with Carnegie Vanguard High School, and the High School for the Performing and Visual Arts, Empowerment College Prep High School. Challenge Early College High School was reported as having the second lowest annual drop-out rate percentage of 0.2%.

College Course Completion Rate

During the 2007–2008 academic year, the advanced level/dual enrollment completion rate for the Houston Independent School District ranged from 0.0% to 63.0%. The early college high schools in the Houston Independent School District were reported to have the third and fourth highest advanced level/dual enrollment rates compared to the selected traditional high schools. Challenge Early College High School had the third

highest advanced level/dual enrollment rate, with a reported 60.9% of its student body successfully completing advanced level/dual enrollment coursed for 2007–2008 academic year. East Early College High School had the fourth highest advanced level/dual enrollment rate, with a reported 50.2% of its student body successfully completing advanced level/dual enrollment coursed for the same academic year.

During the 2008–2009 academic year, the advanced level/dual enrollment completion rate for the Houston Independent School District ranged from 0.0% to 83.8%. The early college high schools in the Houston Independent School District were reported to have the first and fifth highest advanced level/dual enrollment rates compared to the selected traditional high schools. East Early College High School had the highest advanced level/dual enrollment rate, with a reported 83.8% of its student body successfully completing advanced level/dual enrollment coursed for 2007 – 2008 academic year. Challenge Early College High School had the fifth highest advanced level/dual enrollment rate, with a reported 61.9% of its student body successfully completing advanced level/dual enrollment coursed for the same academic year.

Laredo Independent School District

Retention

During the 2007–2008 academic year, the Laredo Independent School District annual drop-out rates for the early college and selected traditional high schools ranged from 0.0% to 2.4% The early college high school in the Laredo Independent School District was reported to have the lowest annual drop-out rate (0.0%) compared to the selected traditional high schools.

During the 2008–2009 academic year, the Laredo Independent School District annual drop-out rates for the early college and selected traditional high schools ranged from 0.0% to 4.1% The early college high school in the Laredo Independent School District was reported to have the lowest annual drop-out rate (0.0%) compared to the selected traditional high schools.

College Course Completion Rate

During the 2007–2008 academic year, the advanced level/dual enrollment completion rate for the Laredo Independent School District ranged from 17.2% to 99.5%. The early college high school in the Laredo Independent School District was reported to have the highest advanced level/dual enrollment rate compared to the selected traditional high schools. The early college high school had a reported rate of 99.5% of its student body completing advanced level/dual enrollment coursed during that academic year.

During the 2008–2009 academic year, the advanced level/dual enrollment completion rate for the Laredo Independent School District ranged from 14.8% to 99.3%. The early college high school in the Laredo Independent School District was reported to have the highest advanced level/dual enrollment rate compared to the selected traditional high schools. The early college high school had a reported rate of 99.3% of its student body completing advanced level/dual enrollment coursed during that academic year.

Analysis of State Academic Test Achievement

This portion of the data analysis determined if there was any statistical difference in the state academic test achievement rates between the early college high schools included in the research study and comparable traditional high schools in their school

districts. In each case, Texas Education Agency Academic Excellence Indicator System report data was obtained from the early college and selected traditional high schools in the early college high school's district, and inputted into the SPSS statistical analysis program. The data will be presented in terms of the null hypotheses governing each statistical analysis and will be described in terms of statistical significance as determined by the alpha value of the analysis.

Achievement on State Academic Assessments

Null hypothesis: There is no statistically significant difference between the student achievement rates on state academic assessments of early college and selected traditional high schools in their districts.

Dallas Independent School District

Ninth Grade Spring 2008 Math Scale Scores

Table 13: T-Test Ninth Grade Spring 2008 Math Scale Scores

Group Statistics

	Dallas ISD 2008 Grade 9	N	Mean	Std. Deviation	Std. Error Mean
math scale score	ECHS	108	2295.69	220.805	21.247
	Traditional HS	11100	1952.16	358.206	3.400

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
math scale score	Equal variances assumed	11.223	.001	9.948	11206	.000	343.54	34.533	275.847	411.229
	Equal variances not assumed			15.966	112.549	.000	343.54	21.517	300.907	386.170

The attached table displays the results of the independent sample t-test comparing the ninth grade spring 2008 Texas Assessment of Knowledge and Skills test math scale scores of students in early college and selected traditional high schools in the Dallas Independent School District. According to the table, the sample mean for the ninth grade spring 2008 Texas Assessment of Knowledge and Skills test math scale scores for early college high school students was 2295.69 and 1952.16 for traditional high schools students. The estimated mean difference for math scale scores of early college high school and traditional high school students on the ninth grade spring 2008 Texas Assessment of Knowledge and Skills test is 343.54. The t value for the independent samples test comparing the means is 9.948. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the math scale scores of the early college and traditional high school students on the spring 2008 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average ninth grade spring 2008 Texas Assessment of

Knowledge and Skills test math scale scores of early college high school students are between 275.847 and 411.229 points higher than the scale scores of the traditional high school students.

Ninth Grade Spring 2008 Reading Scale Scores

Table 14: T-Test Ninth Grade Spring 2008 Reading Scale Scores

Group Statistics

	Dallas ISD 2008 Grade 9	N	Mean	Std. Deviation	Std. Error Mean
reading/ELA scale score	ECHS	108	2349.03	129.340	12.446
	Traditional HS	11317	2103.48	288.191	2.709

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
reading/ELA scale score	Equal variances assumed	23.508	.000	8.846	11423	.000	245.55	27.759	191.139	299.963
	Equal variances not assumed			19.278	117.377	.000	245.55	12.737	220.326	270.775

The attached table displays the results of the independent sample t-test comparing the ninth grade spring 2008 Texas Assessment of Knowledge and Skills test reading scale scores of students in early college and selected traditional high schools in the Dallas Independent School District. According to the table, the sample mean for the ninth grade spring 2008 Texas Assessment of Knowledge and Skills test reading scale scores for

early college high school students was 2349.03 and 2103.48 for traditional high schools students. The estimated mean difference for reading scale scores of early college high school and traditional high school students on the ninth grade spring 2008 Texas Assessment of Knowledge and Skills test is 245.55. The t value for the independent samples test comparing the means is 8.846. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the reading scale scores of the early college and traditional high school students on the spring 2008 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average ninth grade spring 2008 Texas Assessment of Knowledge and Skills test reading scale scores of early college high school students are between 191.139 and 299.963 points higher than the scale scores of the traditional high school students.

Tenth Grade Spring 2008 Math Scale Scores

Table 15: T-Test Tenth Grade Spring 2008 Math Scale Scores

Group Statistics

	Dallas ISD 2008 Grade 10	N	Mean	Std. Deviation	Std. Error Mean
math scale score	ECHS	94	2286.74	127.093	13.109
	Traditional HS	7976	2074.77	207.197	2.320

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
math scale score	Equal variances assumed	7.697	.006	9.897	8068	.000	211.98	21.419	169.992	253.965
	Equal variances not assumed			15.923	98.916	.000	211.98	13.312	185.563	238.393

The attached table displays the results of the independent sample t-test comparing the tenth grade spring 2008 Texas Assessment of Knowledge and Skills test math scale scores of students in early college and selected traditional high schools in the Dallas Independent School District. V tenth grade spring 2008 Texas Assessment of Knowledge and Skills test math scale scores for early college high school students was 2349.03 and 2103.48 for traditional high schools students. The estimated mean difference for math scale scores of early college high school and traditional high school students on the tenth grade spring 2008 Texas Assessment of Knowledge and Skills test is 245.55. The t value for the independent samples test comparing the means is 8.846. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the math scale scores of the early college and traditional high school students on the spring 2008 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average tenth grade spring 2008 Texas Assessment of Knowledge and Skills test reading scale scores of early college high

school students are between 191.139 and 299.963 points higher than the scale scores of the traditional high school students.

Tenth Grade Spring 2008 Reading/ELA Scale Scores

Table 16: T-Test Tenth Grade Spring 2008 Reading/ELA Scale Scores

Group Statistics

	Dallas ISD 2008 Grade 10	N	Mean	Std. Deviation	Std. Error Mean
reading/ELA scale score	ECHS	95	2303.07	79.895	8.197
	Traditional HS	8110	2185.32	180.397	2.003

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
reading/ELA scale score	Equal variances assumed	19.373	.000	6.355	8203	.000	117.76	18.530	81.432	154.081
	Equal variances not assumed			13.955	105.558	.000	117.76	8.438	101.026	134.487

The attached table displays the results of the independent sample t-test comparing the tenth grade spring 2008 Texas Assessment of Knowledge and Skills test reading/ELA scale scores of students in early college and selected traditional high schools in the Dallas Independent School District. According to the table, the sample mean for the tenth grade spring 2008 Texas Assessment of Knowledge and Skills test reading/ELA scale scores for early college high school students was 2303.07 and 2185.32 for traditional high

schools students. The estimated mean difference for reading/ELA scale scores of early college high school and traditional high school students on the tenth grade spring 2008 Texas Assessment of Knowledge and Skills test is 117.76. The t value for the independent samples test comparing the means is 6.355. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the reading/ELA scale scores of the early college and traditional high school students on the spring 2008 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average tenth grade spring 2008 Texas Assessment of Knowledge and Skills test reading/ELA scale scores of early college high school students are between 81.432 and 154.081 points higher than the scale scores of the traditional high school students.

Tenth Grade Spring 2008 Science Scale Scores

Table 17: T-Test Tenth Grade Spring 2008 Science Scale Scores

Group Statistics

	Dallas ISD 2008 Grade 10	N	Mean	Std. Deviation	Std. Error Mean
science scale score	ECHS	94	2208.29	123.992	12.789
	Traditional HS	7968	2043.56	224.549	2.516

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
science scale score	Equal variances assumed	8.085	.004	7.099	8060	.000	164.73	23.203	119.243	210.211
	Equal variances not assumed			12.638	100.334	.000	164.73	13.034	138.869	190.584

The attached table displays the results of the independent sample t-test comparing the tenth grade spring 2008 Texas Assessment of Knowledge and Skills test science scale scores of students in early college and selected traditional high schools in the Dallas Independent School District. According to the table, the sample mean for the tenth grade spring 2008 Texas Assessment of Knowledge and Skills test science scale scores for early college high school students was 2208.29 and 2043.56 for traditional high schools students. The estimated mean difference for science scale scores of early college high school and traditional high school students on the tenth grade spring 2008 Texas Assessment of Knowledge and Skills test is 164.73. The t value for the independent samples test comparing the means is 7.099. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the science scale scores of the early college and traditional high school students on the spring 2008 Texas Assessment of Knowledge and Skills test. The 95% confidence

interval indicates that the average tenth grade spring 2008 Texas Assessment of Knowledge and Skills test science scale scores of early college high school students are between 119.243 and 210.211 points higher than the scale scores of the traditional high school students.

Tenth Grade Spring 2008 Social Studies Scale Scores

Table 18: T-Test Tenth Grade Spring 2008 Social Studies Scale Scores

Group Statistics

	Dallas ISD 2008 Grade 10	N	Mean	Std. Deviation	Std. Error Mean
soc. studies scale score	ECHS	95	2368.75	136.971	14.053
	Traditional HS	7607	2186.52	278.414	3.192

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
soc. studies scale score	Equal variances assumed	11.204	.001	6.369	7700	.000	182.22	28.609	126.143	238.306
	Equal variances not assumed			12.645	103.947	.000	182.22	14.411	153.647	210.802

The attached table displays the results of the independent sample t-test comparing the tenth grade spring 2008 Texas Assessment of Knowledge and Skills test social studies scale scores of students in early college and selected traditional high schools in the Dallas Independent School District. According to the table, the sample mean for the tenth grade

spring 2008 Texas Assessment of Knowledge and Skills test social studies scale scores for early college high school students was 2368.75 and 2186.52 for traditional high schools students. The estimated mean difference for social studies scale scores of early college high school and traditional high school students on the tenth grade spring 2008 Texas Assessment of Knowledge and Skills test is 182.22. The t value for the independent samples test comparing the means is 6.369. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the social studies scale scores of the early college and traditional high school students on the spring 2008 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average tenth grade spring 2008 Texas Assessment of Knowledge and Skills test social studies scale scores of early college high school students are between 126.143 and 238.306 points higher than the scale scores of the traditional high school students.

Eleventh Grade Spring 2008 Texas Assessment of Academic Skills Test Scale Scores

The statistical analysis for eleventh grade Texas Assessment of Academic Skills tests could not be conducted, because there were no eleventh grade early college high school students in the Dallas Independent School District during the spring semester of the 2008 academic year.

Ninth Grade Spring 2009 Math Scale Scores

Table 19: T-Test Ninth Grade Spring 2009 Math Scale Scores

Group Statistics

	Dallas ISD 2009 Grade 9	N	Mean	Std. Deviation	Std. Error Mean
math scale score	ECHS	107	2318.1776	199.36937	19.27376
	Traditional HS	9088	2118.2794	210.14216	2.20434

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
math scale score	Equal variances assumed	.210	.647	9.788	9193	.000	199.8982	20.42268	159.86520	239.93118
	Equal variances not assumed			10.304	108.791	.000	199.8982	19.39941	161.44836	238.34802

The attached table displays the results of the independent sample t-test comparing the ninth grade spring 2009 Texas Assessment of Knowledge and Skills test math scale scores of students in early college and selected traditional high schools in the Dallas Independent School District. According to the table, the sample mean for the ninth grade spring 2009 Texas Assessment of Knowledge and Skills test math scale scores for early college high school students was 2318.1776 and 2118.2794 for traditional high schools students. The estimated mean difference for math scale scores of early college high school and traditional high school students on the ninth grade spring 2009 Texas

Assessment of Knowledge and Skills test is 199.8982. The t value for the independent samples test comparing the means is 9.788. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the math scale scores of the early college and traditional high school students on the spring 2009 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average ninth grade spring 2009 Texas Assessment of Knowledge and Skills test math scale scores of early college high school students are between 159.86520 and 239.93118 points higher than the scale scores of the traditional high school students.

Ninth Grade Spring 2009 Reading Scale Scores

Table 20: T-Test Ninth Grade Spring 2009 Reading Scale Scores

Group Statistics

	Dallas ISD 2009 Grade 9	N	Mean	Std. Deviation	Std. Error Mean
reading/ELA scale score	ECHS	107	2345.8318	179.85348	17.38709
	Traditional HS	9338	2197.9993	158.87598	1.64411

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
reading scale score	Equal variances assumed	1.094	.296	9.555	9443	.000	147.8325	15.47125	117.50554	178.15951
	Equal variances not assumed			8.465	107.904	.000	147.8325	17.46465	113.21421	182.45084

The attached table displays the results of the independent sample t-test comparing the ninth grade spring 2009 Texas Assessment of Knowledge and Skills test reading scale scores of students in early college and selected traditional high schools in the Dallas Independent School District. According to the table, the sample mean for the ninth grade spring 2009 Texas Assessment of Knowledge and Skills test reading scale scores for early college high school students was 234.8318 and 2197.9993 for traditional high schools students. The estimated mean difference for reading scale scores of early college high school and traditional high school students on the ninth grade spring 2009 Texas Assessment of Knowledge and Skills test is 147.8325. The t value for the independent samples test comparing the means is 9.555. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the reading scale scores of the early college and traditional high school students on the spring 2009 Texas Assessment of Knowledge and Skills test. The 95% confidence

interval indicates that the average ninth grade spring 2009 Texas Assessment of Knowledge and Skills test reading scale scores of early college high school students are between 187.911 and 281.646 points higher than the scale scores of the traditional high school students.

Tenth Grade Spring 2009 Math Scale Scores

Table 21: T-Test Tenth Grade Spring 2009 Math Scale Scores

Group Statistics

	Dallas ISD 2009 Grade 10	N	Mean	Std. Deviation	Std. Error Mean
math scale score	ECHS	89	2315.03	177.033	18.765
	Traditional HS	8013	2080.25	224.778	2.511

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
math scale score	Equal variances assumed	.388	.533	9.820	8100	.000	234.78	23.909	187.911	281.646
	Equal variances not assumed			12.401	91.179	.000	234.78	18.933	197.172	272.385

The attached table displays the results of the independent sample t-test comparing the tenth grade spring 2009 Texas Assessment of Knowledge and Skills test math scale scores of students in early college and selected traditional high schools in the Dallas Independent School District. According to the table, the sample mean for the tenth grade spring 2009 Texas Assessment of Knowledge and Skills test math scale scores for early

college high school students was 2315.03 and 2080.25 for traditional high schools students to be. The estimated mean difference for math scale scores of early college high school and traditional high school students on the tenth grade spring 2009 Texas Assessment of Knowledge and Skills test is 234.78. The t value for the independent samples test comparing the means is 9.820. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the math scale scores of the early college and traditional high school students on the spring 2009 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average tenth grade spring 2009 Texas Assessment of Knowledge and Skills test math scale scores of early college high school students are between 187.911 and 281.646 points higher than the scale scores of the traditional high school students.

Tenth Grade Spring 2009 Reading/ELA Scale Scores

Table 22: T-Test Tenth Grade Spring 2009 Reading/ELA Scale Scores

Group Statistics

	Dallas ISD 2009 Grade 10	N	Mean	Std. Deviation	Std. Error Mean
reading/ELA scale score	ECHS	91	2290.11	91.382	9.579
	Traditional HS	8176	2170.12	189.199	2.092

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
reading/ELA scale score	Equal variances assumed	10.122	.001	6.042	8265	.000	119.99	19.860	81.055	158.916
	Equal variances not assumed			12.237	98.790	.000	119.99	9.805	100.529	139.442

The attached table displays the results of the independent sample t-test comparing the tenth grade spring 2009 Texas Assessment of Knowledge and Skills test reading/ELA scale scores of students in early college and selected traditional high schools in the Dallas Independent School District. According to the table, the sample mean for the tenth grade spring 2009 Texas Assessment of Knowledge and Skills test reading/ELA scale scores for early college high school students was 2290.11 and 2170.12 for traditional high schools students. The estimated mean difference for reading/ELA scale scores of early college high school and traditional high school students on the tenth grade spring 2009 Texas Assessment of Knowledge and Skills test is 119.99. The t value for the independent samples test comparing the means is 6.042. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the reading/ELA scale scores of the early college and traditional high school students on the spring 2009 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average tenth grade spring 2009 Texas

Assessment of Knowledge and Skills test reading/ELA scale scores of early college high school students are between 81.055 and 158.916 points higher than the scale scores of the traditional high school students.

Tenth Grade Spring 2009 Science Scale Scores

Table 23: T-Test Tenth Grade Spring 2009 Science Scale Scores

Group Statistics

	Dallas ISD 2009 Grade 10	N	Mean	Std. Deviation	Std. Error Mean
science scale score	ECHS	89	2249.51	135.157	14.327
	Traditional HS	8024	2047.81	250.069	2.792

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
science scale score	Equal variances assumed	7.324	.007	7.596	8111	.000	201.69	26.551	149.644	253.739
	Equal variances not assumed			13.818	94.808	.000	201.69	14.596	172.714	230.669

The attached table displays the results of the independent sample t-test comparing the tenth grade spring 2009 Texas Assessment of Knowledge and Skills test science scale scores of students in early college and selected traditional high schools in the Dallas Independent School District. According to the table, the sample mean for the tenth grade spring 2009 Texas Assessment of Knowledge and Skills test science scale scores for

early college high school students was 2249.51 and 2047.81 for traditional high schools students. The estimated mean difference for science scale scores of early college high school and traditional high school students on the tenth grade spring 2009 Texas Assessment of Knowledge and Skills test is 201.69. The t value for the independent samples test comparing the means is 7.596. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the science scale scores of the early college and traditional high school students on the spring 2009 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average tenth grade spring 2009 Texas Assessment of Knowledge and Skills test science scale scores of early college high school students are between 149.644 and 253.739 points higher than the scale scores of the traditional high school students.

Tenth Grade Spring 2009 Social Studies Scale Scores

Table 24: T-Test Tenth Grade Spring 2009 Social Studies Scale Scores

Group Statistics

	Dallas ISD 2009 Grade 10	N	Mean	Std. Deviation	Std. Error Mean
soc. studies scale score	ECHS	90	2445.11	166.596	17.561
	Traditional HS	7615	2200.68	300.768	3.447

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
soc. studies scale score	Equal variances assumed	6.680	.010	7.696	7703	.000	244.43	31.763	182.170	306.696
	Equal variances not assumed			13.659	95.987	.000	244.43	17.896	208.910	279.956

The attached table displays the results of the independent sample t-test comparing the tenth grade spring 2009 Texas Assessment of Knowledge and Skills test social studies scale scores of students in early college and selected traditional high schools in the Dallas Independent School District. According to the table, the sample mean for the tenth grade spring 2009 Texas Assessment of Knowledge and Skills test social studies scale scores for early college high school students was 2445.11 and 2200.68 for traditional high schools students. The estimated mean difference for social studies scale scores of early college high school and traditional high school students on the tenth grade spring 2009 Texas Assessment of Knowledge and Skills test is 244.43. The t value for the independent samples test comparing the means is 7.696. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the social studies scale scores of the early college and traditional high school students on the spring 2009 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average tenth grade spring 2009 Texas

Assessment of Knowledge and Skills test social studies scale scores of early college high school students are between 182.170 and 306.696 points higher than the scale scores of the traditional high school students.

Eleventh Grade Spring 2009 Math Scale Scores

Table 25: T-Test Eleventh Grade Spring 2009 Math Scale Scores

Group Statistics

	Dallas ISD 2009 Grade 11	N	Mean	Std. Deviation	Std. Error Mean
math scale score	ECHS	89	2350.24	130.310	13.813
	Traditional HS	5952	2182.45	227.773	2.952

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
math scale score	Equal variances assumed	9.806	.002	6.932	6039	.000	167.79	24.204	120.338	215.236
	Equal variances not assumed			11.879	96.221	.000	167.79	14.125	139.750	195.824

The attached table displays the results of the independent sample t-test comparing the eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test math scale scores of students in early college and selected traditional high schools in the Dallas Independent School District. According to the table, the sample mean for the eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test math scale scores for

early college high school students was 2350.24 and 2182.45 for traditional high schools students. The estimated mean difference for math scale scores of early college high school and traditional high school students on the eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test is 167.79. The t value for the independent samples test comparing the means is 6.932. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the math scale scores of the early college and traditional high school students on the spring 2009 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test math scale scores of early college high school students are between 120.338 and 215.236 points higher than the scale scores of the traditional high school students.

Eleventh Grade Spring 2009 Reading/ELA Scale Scores

Table 26: T-Test Eleventh Grade Spring 2009 Reading/ELA Scale Scores

Group Statistics

	Dallas ISD 2009 Grade 11	N	Mean	Std. Deviation	Std. Error Mean
reading/ELA scale score	ECHS	89	2306.07	133.288	14.129
	Traditional HS	6047	2224.25	204.695	2.632

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
reading/ELA scale score	Equal variances assumed	8.144	.004	3.759	6134	.000	81.82	21.766	39.148	124.487
	Equal variances not assumed			5.693	94.214	.000	81.82	14.372	53.283	110.352

The attached table displays the results of the independent sample t-test comparing the eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test reading/ELA scale scores of students in early college and selected traditional high schools in the Dallas Independent School District. According to the table, the sample mean for the eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test reading/ELA scale scores for early college high school students was 2306.07 and 2224.25 for traditional high schools students. The estimated mean difference for reading/ELA scale scores of early college high school and traditional high school students on the eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test is 81.82. The t value for the independent samples test comparing the means is 3.759. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the reading/ELA scale scores of the early college and traditional high school students on the spring 2009 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average

eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test reading/ELA scale scores of early college high school students are between 39.148 and 124.487 points higher than the scale scores of the traditional high school students.

Eleventh Grade Spring 2009 Science Scale Scores

Table 27: T-Test Eleventh Grade Spring 2009 Science Scale Scores

Group Statistics

	Dallas ISD 2009 Grade 11	N	Mean	Std. Deviation	Std. Error Mean
science scale score	ECHS	89	2257.91	101.715	10.782
	Traditional HS	5965	2172.42	193.222	2.502

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
science scale score	Equal variances assumed	10.702	.001	4.165	6052	.000	85.49	20.525	45.251	125.723
	Equal variances not assumed			7.724	97.727	.000	85.49	11.068	63.522	107.452

The attached table displays the results of the independent sample t-test comparing the eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test science scale scores of students in early college and selected traditional high schools in the Dallas Independent School District. According to the table, the sample mean for the eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test science scale scores

for early college high school students was 2257.91 and 2172.42 for traditional high schools students. The estimated mean difference for science scale scores of early college high school and traditional high school students on the eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test is 85.49. The t value for the independent samples test comparing the means is 4.165. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the science scale scores of the early college and traditional high school students on the spring 2009 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test science scale scores of early college high school students are between 45.251 and 125.723 points higher than the scale scores of the traditional high school students.

Eleventh Grade Spring 2009 Social Studies Scale Scores

Table 28: T-Test Eleventh Grade Spring 2009 Social Studies Scale Scores

Group Statistics

	Dallas ISD 2009 Grade 11	N	Mean	Std. Deviation	Std. Error Mean
soc. studies scale score	ECHS	89	2422.99	128.578	13.629
	Traditional HS	5977	2310.89	221.332	2.863

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
soc. studies scale score	Equal variances assumed	6.426	.011	4.766	6064	.000	112.09	23.521	65.985	158.205
	Equal variances not assumed			8.049	95.934	.000	112.09	13.927	84.450	139.739

The attached table displays the results of the independent sample t-test comparing the eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test social studies scale scores of students in early college and selected traditional high schools in the Dallas Independent School District. According to the table, the sample mean for the eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test social studies scale scores for early college high school students was 2422.99 and 2310.89 for traditional high schools students. The estimated mean difference for social studies scale scores of early college high school and traditional high school students on the eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test is 112.09. The t value for the independent samples test comparing the means is 4.766. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the social studies scale scores of the early college and traditional high school students on the spring 2009 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average eleventh grade spring

2009 Texas Assessment of Knowledge and Skills test social studies scale scores of early college high school students are between 65.985 and 158.205 points higher than the scale scores of the traditional high school students.

Ninth Grade Spring 2010 Math Scale Scores

Table 29: T-Test Ninth Grade Spring 2010 Math Scale Scores

Group Statistics

	Dallas ISD 2010 Grade 9	N	Mean	Std. Deviation	Std. Error Mean
math scale score	ECHS	113	2296.06	194.873	18.332
	Traditional HS	10595	2023.24	374.806	3.641

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
math scale score	Equal variances assumed	15.352	.000	7.726	10706	.000	272.83	35.311	203.610	342.041
	Equal variances not assumed			14.597	121.010	.000	272.83	18.690	235.823	309.828

The attached table displays the results of the independent sample t-test comparing the ninth grade spring 2010 Texas Assessment of Knowledge and Skills test math scale scores of students in early college and selected traditional high schools in the Dallas Independent School District. According to the table, the sample mean for the ninth grade spring 2010 Texas Assessment of Knowledge and Skills test math scale scores for early

college high school students was 2296.06 and 2023.24 for traditional high schools students. The estimated mean difference for math scale scores of early college high school and traditional high school students on the ninth grade spring 2010 Texas Assessment of Knowledge and Skills test is 272.83. The t value for the independent samples test comparing the means is 7.726. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the math scale scores of the early college and traditional high school students on the spring 2010 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average ninth grade spring 2010 Texas Assessment of Knowledge and Skills test math scale scores of early college high school students are between 203.610 and 342.041 points higher than the scale scores of the traditional high school students.

Ninth Grade Spring 2010 Reading/ELA Scale Scores

Table 30: T-Test Ninth Grade Spring 2010 Reading/ELA Scale Scores

Group Statistics

	Dallas ISD 2010 Grade 9	N	Mean	Std. Deviation	Std. Error Mean
reading/ELA scale score	ECHS	113	2315.73	132.798	12.493
	Traditional HS	10644	2125.73	308.564	2.991

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
reading/ELA scale score	Equal variances assumed	26.376	.000	6.539	10755	.000	189.99	29.057	133.037	246.951
	Equal variances not assumed			14.791	125.203	.000	189.99	12.846	164.571	215.416

The attached table displays the results of the independent sample t-test comparing the ninth grade spring 2010 Texas Assessment of Knowledge and Skills test reading/ELA scale scores of students in early college and selected traditional high schools in the Dallas Independent School District. According to the table, the sample mean for the ninth grade spring 2010 Texas Assessment of Knowledge and Skills test reading/ELA scale scores for early college high school students was 2315.73 and 2125.73 for traditional high schools students. The estimated mean difference for reading/ELA scale scores of early college high school and traditional high school students on the ninth grade spring 2010 Texas Assessment of Knowledge and Skills test is 189.99. The t value for the independent samples test comparing the means is 6.539. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the reading/ELA scale scores of the early college and traditional high school students on the spring 2010 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average ninth grade spring 2010 Texas

Assessment of Knowledge and Skills test reading/ELA scale scores of early college high school students are between 133.037 and 246.951 points higher than the scale scores of the traditional high school students.

Tenth Grade Spring 2010 Math Scale Scores

Table 31: T-Test Tenth Grade Spring 2010 Math Scale Scores

Group Statistics

	Dallas ISD 2010 Grade 10	N	Mean	Std. Deviation	Std. Error Mean
math scale score	ECHS	95	2281.4526	144.47666	14.82299
	Traditional HS	7738	2147.6711	155.96167	1.77298

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
math scale score	Equal variances assumed	1.175	.278	8.317	7831	.000	133.7815	16.08554	102.24957	165.31348
	Equal variances not assumed			8.961	96.709	.000	133.7815	14.92865	104.15116	163.41189

The attached table displays the results of the independent sample t-test comparing the tenth grade spring 2010 Texas Assessment of Knowledge and Skills test math scale scores of students in early college and selected traditional high schools in the Dallas Independent School District. According to the table, the sample mean for the tenth grade spring 2010 Texas Assessment of Knowledge and Skills test math scale scores for early college high school students was 2281.4526 and 2147.611 for traditional high schools

students. The estimated mean difference for math scale scores of early college high school and traditional high school students on the tenth grade spring 2010 Texas Assessment of Knowledge and Skills test is 133.7815. The t value for the independent samples test comparing the means is 8.317. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the math scale scores of the early college and traditional high school students on the spring 2010 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average tenth grade spring 2010 Texas Assessment of Knowledge and Skills test math scale scores of early college high school students are between 102.24957 and 165.31348 points higher than the scale scores of the traditional high school students.

Tenth Grade Spring 2010 Reading/ELA Scale Scores

Table 32: T-Test Tenth Grade Spring 2010 Reading/ELA Scale Scores

Group Statistics

	Dallas ISD 2010 Grade 10	N	Mean	Std. Deviation	Std. Error Mean
reading/ELA scale score	ECHS	96	2318.5000	86.38652	8.81679
	Traditional HS	7863	2212.5397	117.59634	1.32617

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
reading/ELA scale score	Equal variances assumed	8.129	.004	8.799	7957	.000	105.9603	12.04194	82.35489	129.56562
	Equal variances not assumed			11.884	99.347	.000	105.9603	8.91597	88.26981	123.65071

The attached table displays the results of the independent sample t-test comparing the tenth grade spring 2010 Texas Assessment of Knowledge and Skills test reading/ELA scale scores of students in early college and selected traditional high schools in the Dallas Independent School District. According to the table, the sample mean for the tenth grade spring 2010 Texas Assessment of Knowledge and Skills test reading/ELA scale scores for early college high school students was 2318.5000 and 2212.5397 for traditional high schools students. The estimated mean difference for reading/ELA scale scores of early college high school and traditional high school students on the tenth grade spring 2010 Texas Assessment of Knowledge and Skills test is 105.9603. The t value for the independent samples test comparing the means is 8.799. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the reading/ELA scale scores of the early college and traditional high school students on the spring 2010 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average tenth grade spring 2010 Texas

Assessment of Knowledge and Skills test reading/ELA scale scores of early college high school students are between 82.35489 and 129.56562 points higher than the scale scores of the traditional high school students.

Tenth Grade Spring 2010 Science Scale Scores

Table 33: T-Test Tenth Grade Spring 2010 Science Scale Scores

Group Statistics

	Dallas ISD 2010 Grade 10	N	Mean	Std. Deviation	Std. Error Mean
science scale score	ECHS	94	2290.8298	129.75507	13.38321
	Traditional HS	7688	2134.5736	163.25701	1.86194

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
science scale score	Equal variances assumed	3.375	.066	9.244	7780	.000	156.2562	16.90397	123.11984	189.39249
	Equal variances not assumed			11.564	96.635	.000	156.2562	13.51211	129.43708	183.07525

The attached table displays the results of the independent sample t-test comparing the tenth grade spring 2010 Texas Assessment of Knowledge and Skills test science scale scores of students in early college and selected traditional high schools in the Dallas Independent School District. According to the table, the sample mean for the tenth grade spring 2010 Texas Assessment of Knowledge and Skills test science scale scores for early college high school students was 2290.8298 and 2134.5736 for traditional high

schools students. The estimated mean difference for science scale scores of early college high school and traditional high school students on the tenth grade spring 2010 Texas Assessment of Knowledge and Skills test is 156.2562. The t value for the independent samples test comparing the means is 9.244. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the science scale scores of the early college and traditional high school students on the spring 2010 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average tenth grade spring 2010 Texas Assessment of Knowledge and Skills test science scale scores of early college high school students are between 123.11984 and 189.39249 points higher than the scale scores of the traditional high school students.

Tenth Grade Spring 2010 Social Studies Scale Scores

Table 34: T-Test Tenth Grade Spring 2010 Social Studies Scale Scores

Group Statistics

	Dallas ISD 2010 Grade 10	N	Mean	Std. Deviation	Std. Error Mean
soc. studies scale score	ECHS	95	2458.9684	128.33471	13.16686
	Traditional HS	7592	2304.4052	167.78601	1.92565

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
soc. studies scale score	Equal variances assumed	4.435	.035	8.946	7685	.000	154.5633	17.27783	120.69399	188.43252
	Equal variances not assumed			11.615	98.064	.000	154.5633	13.30693	128.15630	180.97022

The attached table displays the results of the independent sample t-test comparing the tenth grade spring 2010 Texas Assessment of Knowledge and Skills test social studies scale scores of students in early college and selected traditional high schools in the Dallas Independent School District. According to the table, the sample mean for the tenth grade spring 2010 Texas Assessment of Knowledge and Skills test social studies scale scores for early college high school students was 2458.9684 and 2304.4052 for traditional high schools students. The estimated mean difference for social studies scale scores of early college high school and traditional high school students on the tenth grade spring 2010 Texas Assessment of Knowledge and Skills test is 154.5633. The t value for the independent samples test comparing the means is 8.946. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the social studies scale scores of the early college and traditional high school students on the spring 2010 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average tenth grade spring 2010 Texas

Assessment of Knowledge and Skills test social studies scale scores of early college high school students are between 120.69399 and 188.43252 points higher than the scale scores of the traditional high school students.

Eleventh Grade Spring 2010 Math Scale Scores

Table 35: T-Test Eleventh Grade Spring 2010 Math Scale Scores

Group Statistics

	Dallas ISD 2010 Grade 11	N	Mean	Std. Deviation	Std. Error Mean
math scale score	ECHS	84	2342.90	139.500	15.221
	Traditional HS	6567	2196.67	208.343	2.571

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
math scale score	Equal variances assumed	2.385	.123	6.414	6649	.000	146.23	22.798	101.539	190.922
	Equal variances not assumed			9.473	87.803	.000	146.23	15.436	115.553	176.908

The attached table displays the results of the independent sample t-test comparing the eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test math scale scores of students in early college and selected traditional high schools in the Dallas Independent School District. According to the table, the sample mean for the eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test math scale scores for early college high school students was 2342.90 and 2196.67 for traditional high schools

students. The estimated mean difference for math scale scores of early college high school and traditional high school students on the eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test is 146.23. The t value for the independent samples test comparing the means is 6.414. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the math scale scores of the early college and traditional high school students on the spring 2010 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test math scale scores of early college high school students are between 101.539 and 190.922 points higher than the scale scores of the traditional high school students.

Eleventh Grade Spring 2010 Reading/ELA Scale Scores

Table 36: T-Test Eleventh Grade Spring 2010 Reading/ELA Scale Scores

Group Statistics

	Dallas ISD 2010 Grade 11	N	Mean	Std. Deviation	Std. Error Mean
reading/ELA scale score	ECHS	85	2320.52	90.676	9.835
	Traditional HS	6643	2221.83	206.402	2.532

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
reading/ELA scale score	Equal variances assumed	8.628	.003	4.402	6726	.000	98.69	22.416	54.742	142.628
	Equal variances not assumed			9.717	95.502	.000	98.69	10.156	78.524	118.846

The attached table displays the results of the independent sample t-test comparing the eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test reading/ELA scale scores of students in early college and selected traditional high schools in the Dallas Independent School District. According to the table, the sample mean for the eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test reading/ELA scale scores for early college high school students was 2320.52 and 2221.83 for traditional high schools students. The estimated mean difference for reading/ELA scale scores of early college high school and traditional high school students on the eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test is 98.69. The t value for the independent samples test comparing the means is 4.402. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the reading/ELA scale scores of the early college and traditional high school students on the spring 2010 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average

eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test reading/ELA scale scores of early college high school students are between 54.742 and 142.628 points higher than the scale scores of the traditional high school students.

Eleventh Grade Spring 2010 Science Scale Scores

Table 37: T-Test Eleventh Grade Spring 2010 Science Scale Scores

Group Statistics

	Dallas ISD 2010 Grade 11	N	Mean	Std. Deviation	Std. Error Mean
science scale score	ECHS	84	2274.89	97.499	10.638
	Traditional HS	6564	2184.92	184.917	2.282

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
science scale score	Equal variances assumed	7.019	.008	4.451	6646	.000	89.97	20.213	50.346	129.594
	Equal variances not assumed			8.269	90.815	.000	89.97	10.880	68.358	111.583

The attached table displays the results of the independent sample t-test comparing the eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test science scale scores of students in early college and selected traditional high schools in the Dallas Independent School District. According to the table, the sample mean for the eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test science scale scores

for early college high school students was 2274.89 and 2184.92 for traditional high schools students. The estimated mean difference for science scale scores of early college high school and traditional high school students on the eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test is 89.97. The t value for the independent samples test comparing the means is 4.451. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the science scale scores of the early college and traditional high school students on the spring 2010 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test science scale scores of early college high school students are between 50.346 and 129.594 points higher than the scale scores of the traditional high school students.

Eleventh Grade Spring 2010 Social Studies Scale Scores

Table 38: T-Test Eleventh Grade Spring 2010 Social Studies Scale Scores

Group Statistics

	Dallas ISD 2010 Grade 11	N	Mean	Std. Deviation	Std. Error Mean
soc. studies scale score	ECHS	84	2400.86	101.154	11.037
	Traditional HS	6566	2320.00	212.974	2.628

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
soc. studies scale score	Equal variances assumed	14.069	.000	3.474	6648	.001	80.86	23.272	35.235	126.477
	Equal variances not assumed			7.127	92.677	.000	80.86	11.345	58.325	103.387

The attached table displays the results of the independent sample t-test comparing the eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test social studies scale scores of students in early college and selected traditional high schools in the Dallas Independent School District. According to the table, the sample mean for the eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test social studies scale scores for early college high school students was 2400.86 and 2320.00 for traditional high schools students. The estimated mean difference for social studies scale scores of early college high school and traditional high school students on the eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test is 80.86. The t value for the independent samples test comparing the means is 3.474. The p value for the test is .001, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the social studies scale scores of the early college and traditional high school students on the spring 2010 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average eleventh grade spring

2010 Texas Assessment of Knowledge and Skills test social studies scale scores of early college high school students are between 35.235 and 126.477 points higher than the scale scores of the traditional high school students.

Houston Independent School District

Ninth Grade Spring 2008 Math Scale Scores

Table 39: T-Test Ninth Grade Spring 2008 Math Scale Scores

Group Statistics

	Houston ISD 2008 Grade 9	N	Mean	Std. Deviation	Std. Error Mean
math scale score	ECHS	231	2324.95	214.121	14.088
	Traditional HS	12242	2039.33	341.406	3.086

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
math scale score	Equal variances assumed	16.166	.000	12.668	12471	.000	285.62	22.547	241.423	329.813
	Equal variances not assumed			19.804	252.585	.000	285.62	14.422	257.215	314.021

The attached table displays the results of the independent sample t-test comparing the ninth grade spring 2008 Texas Assessment of Knowledge and Skills test math scale scores of students in early college and selected traditional high schools in the Houston Independent School District. According to the table, the sample mean for the ninth grade spring 2008 Texas Assessment of Knowledge and Skills test math scale scores for early

college high school students was 2324.95 and 2039.33 for traditional high schools students. The estimated mean difference for math scale scores of early college high school and traditional high school students on the ninth grade spring 2008 Texas Assessment of Knowledge and Skills test is 285.62. The t value for the independent samples test comparing the means is 12.668. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the math scale scores of the early college and traditional high school students on the spring 2008 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average ninth grade spring 2008 Texas Assessment of Knowledge and Skills test math scale scores of early college high school students are between 241.423 and 329.813 points higher than the scale scores of the traditional high school students.

Ninth Grade Spring 2008 Reading/ELA Scale Scores

Table 40: T-Test Ninth Grade Spring 2008 Reading/ELA Scale Scores

Group Statistics

	Houston ISD 2008 Grade 9	N	Mean	Std. Deviation	Std. Error Mean
reading/ELA scale score	ECHS	231	2360.79	160.055	10.531
	Traditional HS	12479	2155.75	267.604	2.396

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
reading/ELA scale score	Equal variances assumed	26.785	.000	11.607	12708	.000	205.04	17.666	170.414	239.669
	Equal variances not assumed			18.986	254.407	.000	205.04	10.800	183.773	226.310

The attached table displays the results of the independent sample t-test comparing the ninth grade spring 2008 Texas Assessment of Knowledge and Skills test reading/ELA scale scores of students in early college and selected traditional high schools in the Houston Independent School District. According to the table, the sample mean for the ninth grade spring 2008 Texas Assessment of Knowledge and Skills test reading/ELA scale scores for early college high school students was 2360.79 and 2155.75 for traditional high schools students. The estimated mean difference for reading/ELA scale scores of early college high school and traditional high school students on the ninth grade spring 2008 Texas Assessment of Knowledge and Skills test is 205.04. The t value for the independent samples test comparing the means is 11.607. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the reading/ELA scale scores of the early college and traditional high school students on the spring 2008 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average ninth grade spring 2008 Texas

Assessment of Knowledge and Skills test reading/ELA scale scores of early college high school students are between 170.414 and 239.669 points higher than the scale scores of the traditional high school students.

Tenth Grade Spring 2008 Math Scale Scores

Table 41: T-Test Tenth Grade Spring 2008 Math Scale Scores

Group Statistics

	Houston ISD 2008 Grade 10	N	Mean	Std. Deviation	Std. Error Mean
math scale score	ECHS	79	2202.67	222.557	25.040
	Traditional HS	8496	2127.32	219.559	2.382

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
math scale score	Equal variances assumed	.925	.336	3.036	8573	.002	75.35	24.820	26.697	124.003
	Equal variances not assumed			2.996	79.418	.004	75.35	25.153	25.289	125.411

The attached table displays the results of the independent sample t-test comparing the tenth grade spring 2008 Texas Assessment of Knowledge and Skills test math scale scores of students in early college and selected traditional high schools in the Houston Independent School District. According to the table, the sample mean for the tenth grade spring 2008 Texas Assessment of Knowledge and Skills test math scale scores for early college high school students was 2202.67 and 2127.32 for traditional high schools

students. The estimated mean difference for math scale scores of early college high school and traditional high school students on the tenth grade spring 2008 Texas Assessment of Knowledge and Skills test is 75.35. The t value for the independent samples test comparing the means is 3.036. The p value for the test is .002, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the math scale scores of the early college and traditional high school students on the spring 2008 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average tenth grade spring 2008 Texas Assessment of Knowledge and Skills test math scale scores of early college high school students are between 26.697 and 124.003 points higher than the scale scores of the traditional high school students.

Tenth Grade Spring 2008 Reading/ELA Scale Scores

Table 42: T-Test Tenth Grade Spring 2008 Reading/ELA Scale Scores

Group Statistics

	Houston ISD 2008 Grade 10	N	Mean	Std. Deviation	Std. Error Mean
reading/ELA scale score	ECHS	79	2287.43	96.718	10.882
	Traditional HS	8633	2214.17	187.776	2.021

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
reading/ELA scale score	Equal variances assumed	15.486	.000	3.463	8710	.001	73.26	21.153	31.798	114.727
	Equal variances not assumed			6.619	83.473	.000	73.26	11.068	51.251	95.274

The attached table displays the results of the independent sample t-test comparing the tenth grade spring 2008 Texas Assessment of Knowledge and Skills test reading/ELA scale scores of students in early college and selected traditional high schools in the Houston Independent School District. According to the table, the sample mean for the tenth grade spring 2008 Texas Assessment of Knowledge and Skills test reading/ELA scale scores for early college high school students was 2287.43 and 2214.17 for traditional high schools students. The estimated mean difference for reading/ELA scale scores of early college high school and traditional high school students on the tenth grade spring 2008 Texas Assessment of Knowledge and Skills test is 73.26. The t value for the independent samples test comparing the means is 3.463. The p value for the test is .001, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the reading/ELA scale scores of the early college and traditional high school students on the spring 2008 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average tenth grade spring 2008 Texas

Assessment of Knowledge and Skills test reading/ELA scale scores of early college high school students are between 31.798 and 114.727 points higher than the scale scores of the traditional high school students.

Tenth Grade Spring 2008 Science Scale Scores

Table 43: T-Test Tenth Grade Spring 2008 Science Scale Scores

Group Statistics

	Houston ISD 2008 Grade 10	N	Mean	Std. Deviation	Std. Error Mean
science scale score	ECHS	79	2199.66	178.530	20.086
	Traditional HS	8491	2088.27	242.861	2.636

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
science scale score	Equal variances assumed	6.377	.012	4.066	8568	.000	111.39	27.393	57.694	165.089
	Equal variances not assumed			5.499	80.709	.000	111.39	20.258	71.082	151.702

The attached table displays the results of the independent sample t-test comparing the tenth grade spring 2008 Texas Assessment of Knowledge and Skills test science scale scores of students in early college and selected traditional high schools in the Houston Independent School District. According to the table, the sample mean for the tenth grade spring 2008 Texas Assessment of Knowledge and Skills test science scale scores for early college high school students was 2199.66 and 2088.27 for traditional high schools

students. The estimated mean difference for science scale scores of early college high school and traditional high school students on the tenth grade spring 2008 Texas Assessment of Knowledge and Skills test is 111.39. The t value for the independent samples test comparing the means is 4.066. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the science scale scores of the early college and traditional high school students on the spring 2008 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average tenth grade spring 2008 Texas Assessment of Knowledge and Skills test science scale scores of early college high school students are between 57.694 and 165.089 points higher than the scale scores of the traditional high school students.

Tenth Grade Spring 2008 Social Studies Scale Scores

Table 44: T-Test Tenth Grade Spring 2008 Social Studies Scale Scores

Group Statistics

	Houston ISD 2008 Grade 10	N	Mean	Std. Deviation	Std. Error Mean
soc. studies scale score	ECHS	79	2376.84	143.071	16.097
	Traditional HS	8245	2211.53	287.245	3.163

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
soc. studies scale score	Equal variances assumed	9.590	.002	5.109	8322	.000	165.31	32.357	101.878	228.736
	Equal variances not assumed			10.077	84.140	.000	165.31	16.405	132.685	197.929

The attached table displays the results of the independent sample t-test comparing the tenth grade spring 2008 Texas Assessment of Knowledge and Skills test social studies scale scores of students in early college and selected traditional high schools in the Houston Independent School District. According to the table, the sample mean for the tenth grade spring 2008 Texas Assessment of Knowledge and Skills test social studies scale scores for early college high school students was 2376.84 and 2211.53 for traditional high schools students. The estimated mean difference for social studies scale scores of early college high school and traditional high school students on the tenth grade spring 2008 Texas Assessment of Knowledge and Skills test is 165.31. The t value for the independent samples test comparing the means is 5.109. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the social studies scale scores of the early college and traditional high school students on the spring 2008 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average tenth grade spring 2008 Texas

Assessment of Knowledge and Skills test social studies scale scores of early college high school students are between 101.878 and 228.736 points higher than the scale scores of the traditional high school students.

Eleventh Grade Spring 2008 Math Scale Scores

Table 45: T-Test Eleventh Grade Spring 2008 Math Scale Scores

Group Statistics

	Houston ISD 2008 Grade 11	N	Mean	Std. Deviation	Std. Error Mean
math scale score	ECHS	90	2345.52	162.046	17.081
	Traditional HS	8429	2219.36	224.530	2.446

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
math scale score	Equal variances assumed	2.814	.093	5.316	8517	.000	126.16	23.734	79.639	172.688
	Equal variances not assumed			7.312	92.686	.000	126.16	17.255	91.896	160.431

The attached table displays the results of the independent sample t-test comparing the eleventh grade spring 2008 Texas Assessment of Knowledge and Skills test math scale scores of students in early college and selected traditional high schools in the Houston Independent School District. According to the table, the sample mean for the eleventh grade spring 2008 Texas Assessment of Knowledge and Skills test math scale scores for early college high school students was 2345.52 and 2219.36 for traditional

high schools students. The estimated mean difference for math scale scores of early college high school and traditional high school students on the eleventh grade spring 2008 Texas Assessment of Knowledge and Skills test is 126.16. The t value for the independent samples test comparing the means is 5.316. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the math scale scores of the early college and traditional high school students on the spring 2008 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average eleventh grade spring 2008 Texas Assessment of Knowledge and Skills test math scale scores of early college high school students are between 79.639 and 172.688 points higher than the scale scores of the traditional high school students.

Eleventh Grade Spring 2008 Reading/ELA Scale Scores

Table 46: T-Test Eleventh Grade Spring 2008 Reading/ELA Scale Scores

Group Statistics

	Houston ISD 2008 Grade 11	N	Mean	Std. Deviation	Std. Error Mean
reading/ELA scale score	ECHS	89	2345.24	109.644	11.622
	Traditional HS	8599	2236.21	200.159	2.158

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
reading/ELA scale score	Equal variances assumed	7.907	.005	5.130	8686	.000	109.02	21.251	67.365	150.678
	Equal variances not assumed			9.223	94.174	.000	109.02	11.821	85.551	132.492

The attached table displays the results of the independent sample t-test comparing the eleventh grade spring 2008 Texas Assessment of Knowledge and Skills test reading/ELA scale scores of students in early college and selected traditional high schools in the Houston Independent School District. According to the table, the sample mean for the eleventh grade spring 2008 Texas Assessment of Knowledge and Skills test reading/ELA scale scores for early college high school students was 2345.24 and 2236.21 for traditional high schools students. The estimated mean difference for reading/ELA scale scores of early college high school and traditional high school students on the eleventh grade spring 2008 Texas Assessment of Knowledge and Skills test is 109.02. The t value for the independent samples test comparing the means is 5.130. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the reading/ELA scale scores of the early college and traditional high school students on the spring 2008 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average

eleventh grade spring 2008 Texas Assessment of Knowledge and Skills test reading/ELA scale scores of early college high school students are between 67.365 and 150.678 points higher than the scale scores of the traditional high school students.

Eleventh Grade Spring 2008 Science Scale Scores

Table 47: T-Test Eleventh Grade Spring 2008 Science Scale Scores

Group Statistics

	Houston ISD 2008 Grade 11	N	Mean	Std. Deviation	Std. Error Mean
science scale score	ECHS	90	2291.50	123.172	12.984
	Traditional HS	8469	2179.62	174.439	1.896

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
science scale score	Equal variances assumed	3.846	.050	6.068	8557	.000	111.88	18.437	75.738	148.019
	Equal variances not assumed			8.527	92.834	.000	111.88	13.121	85.822	137.935

The attached table displays the results of the independent sample t-test comparing the eleventh grade spring 2008 Texas Assessment of Knowledge and Skills test science scale scores of students in early college and selected traditional high schools in the Houston Independent School District. According to the table, the sample mean for the eleventh grade spring 2008 Texas Assessment of Knowledge and Skills test science scale scores for early college high school students was 2291.50 and 2179.62 for traditional

high schools students. The estimated mean difference for science scale scores of early college high school and traditional high school students on the eleventh grade spring 2008 Texas Assessment of Knowledge and Skills test is 111.88. The t value for the independent samples test comparing the means is 6.068. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the science scale scores of the early college and traditional high school students on the spring 2008 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average eleventh grade spring 2008 Texas Assessment of Knowledge and Skills test science scale scores of early college high school students are between 75.738 and 148.019 points higher than the scale scores of the traditional high school students.

Eleventh Grade Spring 2008 Social Studies Scale Scores

Table 48: T-Test Eleventh Grade Spring 2008 Social Studies Scale Scores

Group Statistics

	Houston ISD 2008 Grade 11	N	Mean	Std. Deviation	Std. Error Mean
soc. studies scale score	ECHS	90	2335.33	88.178	9.295
	Traditional HS	8473	2303.79	202.942	2.205

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
soc. studies scale score	Equal variances assumed	15.803	.000	1.473	8561	.141	31.54	21.414	-10.435	73.520
	Equal variances not assumed			3.302	99.294	.001	31.54	9.553	12.589	50.497

The attached table displays the results of the independent sample t-test comparing the eleventh grade spring 2008 Texas Assessment of Knowledge and Skills test social studies scale scores of students in early college and selected traditional high schools in the Houston Independent School District. According to the table, the sample mean for the eleventh grade spring 2008 Texas Assessment of Knowledge and Skills test social studies scale scores for early college high school students was 2335.33 and 2303.79 for traditional high schools students. The estimated mean difference for social studies scale scores of early college high school and traditional high school students on the eleventh grade spring 2008 Texas Assessment of Knowledge and Skills test is 31.54. The t value for the independent samples test comparing the means is 1.473. The p value for the test is .141, which is not below the required .05 significance level. In this case the null hypothesis cannot be rejected. According to the independent samples t-test, there is not a significant statistical difference between the social studies scale scores of the early college and traditional high school students on the spring 2008 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average eleventh grade spring 2008 Texas Assessment of Knowledge and Skills test social studies

scale scores of early college high school students are between -10.435 below and 73.520 points higher than the scale scores of the traditional high school students.

Ninth Grade Spring 2009 Math Scale Scores

Table 49: T-Test Ninth Grade Spring 2009 Math Scale Scores

Group Statistics

	Houston ISD 2009 Grade 9	N	Mean	Std. Deviation	Std. Error Mean
math scale score	ECHS	225	2333.5689	187.61981	12.50799
	Traditional HS	10277	2144.2698	235.50685	2.32311

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
math scale score	Equal variances assumed	14.044	.000	11.974	10500	.000	189.2991	15.80943	158.30958	220.28854
	Equal variances not assumed			14.880	239.714	.000	189.2991	12.72189	164.23808	214.36004

The attached table displays the results of the independent sample t-test comparing the ninth grade spring 2009 Texas Assessment of Knowledge and Skills test math scale scores of students in early college and selected traditional high schools in the Houston Independent School District. According to the table, the sample mean for the ninth grade spring 2009 Texas Assessment of Knowledge and Skills test math scale scores for early college high school students was 233.5689 and 2303.79 for traditional high schools

students. The estimated mean difference for math scale scores of early college high school and traditional high school students on the ninth grade spring 2009 Texas Assessment of Knowledge and Skills test is 189.2991. The t value for the independent samples test comparing the means is 11.974. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the math scale scores of the early college and traditional high school students on the spring 2009 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average ninth grade spring 2009 Texas Assessment of Knowledge and Skills test math scale scores of early college high school students are between 158.30958 and 220.28854 points higher than the scale scores of the traditional high school students.

Ninth Grade Spring 2009 Reading/ELA Scale Scores

Table 50: T-Test Ninth Grade Spring 2009 Reading/ELA Scale Scores

Group Statistics

	Houston ISD 2009 Grade 9	N	Mean	Std. Deviation	Std. Error Mean
reading/ELA scale score	ECHS	231	2354.7619	201.97475	13.28896
	Traditional HS	10603	2219.7107	186.83874	1.81448

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
reading/ELA scale score	Equal variances assumed	1.336	.248	10.849	10832	.000	135.0512	12.44850	110.64983	159.45249
	Equal variances not assumed			10.069	238.654	.000	135.0512	13.41227	108.62962	161.47271

The attached table displays the results of the independent sample t-test comparing the ninth grade spring 2009 Texas Assessment of Knowledge and Skills test reading/ELA scale scores of students in early college and selected traditional high schools in the Houston Independent School District. According to the table, the sample mean for the ninth grade spring 2009 Texas Assessment of Knowledge and Skills test reading/ELA scale scores for early college high school students was 2354.7619 and 2219.7107 for traditional high schools students. The estimated mean difference for reading/ELA scale scores of early college high school and traditional high school students on the ninth grade spring 2009 Texas Assessment of Knowledge and Skills test is 135.0512. The t value for the independent samples test comparing the means is 10.849. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the reading/ELA scale scores of the early college and traditional high school students on the spring 2009 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average ninth grade spring

2009 Texas Assessment of Knowledge and Skills test reading/ELA scale scores of early college high school students are between 110.64983 and 159.45249 points higher than the scale scores of the traditional high school students.

Tenth Grade Spring 2009 Math Scale Scores

Table 51: T-Test Tenth Grade Spring 2009 Math Scale Scores

Group Statistics

	Houston ISD 2009 Grade 10	N	Mean	Std. Deviation	Std. Error Mean
math scale score	ECHS	206	2303.58	186.893	13.021
	Traditional HS	9900	2123.37	216.305	2.174

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
math scale score	Equal variances assumed	1.985	.159	11.866	10104	.000	180.21	15.187	150.437	209.978
	Equal variances not assumed			13.650	216.584	.000	180.21	13.202	154.187	206.228

The attached table displays the results of the independent sample t-test comparing the tenth grade spring 2009 Texas Assessment of Knowledge and Skills test math scale scores of students in early college and selected traditional high schools in the Houston Independent School District. According to the table, the sample mean for the tenth grade spring 2009 Texas Assessment of Knowledge and Skills test math scale scores for early college high school students was 2303.58 and 2123.37 for traditional high schools

students. The estimated mean difference for math scale scores of early college high school and traditional high school students on the tenth grade spring 2009 Texas Assessment of Knowledge and Skills test is 181.21. The t value for the independent samples test comparing the means is 11.866. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the math scale scores of the early college and traditional high school students on the spring 2009 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average tenth grade spring 2009 Texas Assessment of Knowledge and Skills test math scale scores of early college high school students are between 150.437 and 209.978 points higher than the scale scores of the traditional high school students.

Tenth Grade Spring 2009 Reading/ELA Scale Scores

Table 52: T-Test Tenth Grade Spring 2009 Reading/ELA Scale Scores

Group Statistics

	Houston ISD 2009 Grade 10	N	Mean	Std. Deviation	Std. Error Mean
reading/ELA scale score	ECHS	206	2323.06	120.764	8.414
	Traditional HS	10037	2195.27	184.595	1.843

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
reading/ELA scale score	Equal variances assumed	9.997	.002	9.893	10241	.000	127.79	12.918	102.473	153.117
	Equal variances not assumed			14.837	225.122	.000	127.79	8.613	110.821	144.768

The attached table shows the results of the independent sample t-test comparing the tenth grade spring 2009 Texas Assessment of Knowledge and Skills test reading/ELA scale scores of students in early college and selected traditional high schools in the Houston Independent School District. According to the table, the sample mean for the tenth grade spring 2009 Texas Assessment of Knowledge and Skills test reading/ELA scale scores for early college high school students was 2323.06 and 2195.27 for traditional high schools students. The estimated mean difference for reading/ELA scale scores of early college high school and traditional high school students on the tenth grade spring 2009 Texas Assessment of Knowledge and Skills test is 127.79. The t value for the independent samples test comparing the means is 9.893. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the reading/ELA scale scores of the early college and traditional high school students on the spring 2009 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average tenth grade spring 2009 Texas

Assessment of Knowledge and Skills test reading/ELA scale scores of early college high school students are between 102.473 and 153.117 points higher than the scale scores of the traditional high school students.

Tenth Grade Spring 2009 Science Scale Scores

Table 53: T-Test Tenth Grade Spring 2009 Science Scale Scores

Group Statistics

	Houston ISD 2009 Grade 10	N	Mean	Std. Deviation	Std. Error Mean
science scale score	ECHS	206	2280.55	174.529	12.160
	Traditional HS	9897	2078.18	257.014	2.583

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
science scale score	Equal variances assumed	6.097	.014	11.247	10101	.000	202.38	17.993	167.107	237.648
	Equal variances not assumed			16.279	223.915	.000	202.38	12.431	177.880	226.875

The attached table shows the results of the independent sample t-test comparing the tenth grade spring 2009 Texas Assessment of Knowledge and Skills test science scale scores of students in early college and selected traditional high schools in the Houston Independent School District. According to the table, the sample mean for the tenth grade spring 2009 Texas Assessment of Knowledge and Skills test science scale scores for early college high school students was 2280.55 and 2078.18 for traditional high schools

students. The estimated mean difference for science scale scores of early college high school and traditional high school students on the tenth grade spring 2009 Texas Assessment of Knowledge and Skills test is 202.38. The t value for the independent samples test comparing the means is 11.247. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the science scale scores of the early college and traditional high school students on the spring 2009 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average tenth grade spring 2009 Texas Assessment of Knowledge and Skills test science scale scores of early college high school students are between 167.107 and 237.648 points higher than the scale scores of the traditional high school students.

Tenth Grade Spring 2009 Social Studies Scores

Table 54: T-Test Tenth Grade Spring 2009 Social Studies Scores

Group Statistics

	Houston ISD 2009 Grade 10	N	Mean	Std. Deviation	Std. Error Mean
soc. studies scale score	ECHS	206	2418.13	188.316	13.121
	Traditional HS	9524	2215.69	297.539	3.049

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
soc. studies scale score	Equal variances assumed	14.580	.000	9.723	9728	.000	202.43	20.821	161.622	243.248
	Equal variances not assumed			15.028	227.722	.000	202.43	13.470	175.893	228.977

The attached table displays the results of the independent sample t-test comparing the tenth grade spring 2009 Texas Assessment of Knowledge and Skills test social studies scale scores of students in early college and selected traditional high schools in the Houston Independent School District. According to the table, the sample mean for the tenth grade spring 2009 Texas Assessment of Knowledge and Skills test social studies scale scores for early college high school students was 2418.13 and 2215.69 for traditional high schools students. The estimated mean difference for social studies scale scores of early college high school and traditional high school students on the tenth grade spring 2009 Texas Assessment of Knowledge and Skills test is 202.43. The t value for the independent samples test comparing the means is 9.723. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the social studies scale scores of the early college and traditional high school students on the spring 2009 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average tenth grade spring 2009 Texas

Assessment of Knowledge and Skills test social studies scale scores of early college high school students are between 161.622 and 243.248 points higher than the scale scores of the traditional high school students.

Eleventh Grade Spring 2009 Math Scale Scores

Table 55: T-Test Eleventh Grade Spring 2009 Math Scale Scores

Group Statistics

	Houston ISD 2009 Grade 11	N	Mean	Std. Deviation	Std. Error Mean
math scale score	ECHS	164	2385.71	175.889	13.735
	Traditional HS	7550	2226.68	239.005	2.751

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
math scale score	Equal variances assumed	6.726	.010	8.471	7712	.000	159.03	18.773	122.232	195.833
	Equal variances not assumed			11.353	176.331	.000	159.03	14.007	131.389	186.676

The attached table displays the results of the independent sample t-test comparing the eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test math scale scores of students in early college and selected traditional high schools in the Houston Independent School District. According to the table, the sample mean for the eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test math scale scores for early college high school students was 2385.71 and 2226.68 for traditional

high schools students. The estimated mean difference for math scale scores of early college high school and traditional high school students on the eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test is 159.03. The t value for the independent samples test comparing the means is 8.471. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the math scale scores of the early college and traditional high school students on the spring 2009 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test math scale scores of early college high school students are between 122.232 and 195.833 points higher than the scale scores of the traditional high school students.

Eleventh Grade Spring 2009 Reading/ELA Scale Scores

Table 56: T-Test Eleventh Grade Spring 2009 Reading/ELA Scale Scores

Group Statistics

	Houston ISD 2009 Grade 11	N	Mean	Std. Deviation	Std. Error Mean
reading/ELA scale score	ECHS	164	2398.85	166.866	13.030
	Traditional HS	7636	2251.30	212.631	2.433

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
reading/ELA scale score	Equal variances assumed	3.766	.052	8.829	7798	.000	147.56	16.714	114.794	180.320
	Equal variances not assumed			11.132	174.562	.000	147.56	13.255	121.396	173.719

The attached table displays the results of the independent sample t-test comparing the eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test reading/ELA scale scores of students in early college and selected traditional high schools in the Houston Independent School District. According to the table, the sample mean for the eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test reading/ELA scale scores for early college high school students was 2398.85 and 2251.30 for traditional high schools students. The estimated mean difference for reading/ELA scale scores of early college high school and traditional high school students on the eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test is 147.56. The t value for the independent samples test comparing the means is 8.829. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the reading/ELA scale scores of the early college and traditional high school students on the spring 2009 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average

eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test reading/ELA scale scores of early college high school students are between 114.794 and 180.320 points higher than the scale scores of the traditional high school students.

Eleventh Grade Spring 2009 Science Scale Scores

Table 57: T-Test Eleventh Grade Spring 2009 Science Scale Scores

Group Statistics

	Houston ISD 2009 Grade 11	N	Mean	Std. Deviation	Std. Error Mean
science scale score	ECHS	164	2331.82	139.106	10.862
	Traditional HS	7568	2196.49	200.205	2.301

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
science scale score	Equal variances assumed	9.394	.002	8.611	7730	.000	135.33	15.715	104.524	166.137
	Equal variances not assumed			12.188	177.954	.000	135.33	11.103	113.419	157.242

The attached table displays the results of the independent sample t-test comparing the eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test science scale scores of students in early college and selected traditional high schools in the Houston Independent School District. According to the table, the sample mean for the eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test science scale scores for early college high school students was 2331.82 and 2196.49 for traditional

high schools students. The estimated mean difference for science scale scores of early college high school and traditional high school students on the eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test is 135.33. The t value for the independent samples test comparing the means is 8.611. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the science scale scores of the early college and traditional high school students on the spring 2009 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test science scale scores of early college high school students are between 104.524 and 166.137 points higher than the scale scores of the traditional high school students.

Eleventh Grade Spring 2009 Social Studies Scale Scores

Table 58: T-Test Eleventh Grade Spring 2009 Social Studies Scale Scores

Group Statistics

	Houston ISD 2009 Grade 11	N	Mean	Std. Deviation	Std. Error Mean
soc. studies scale score	ECHS	164	2443.76	170.863	13.342
	Traditional HS	7578	2330.64	224.699	2.581

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
soc. studies scale score	Equal variances assumed	3.443	.064	6.407	7740	.000	113.13	17.656	78.515	147.736
	Equal variances not assumed			8.324	175.425	.000	113.13	13.590	86.306	139.946

The attached table displays the results of the independent sample t-test comparing the eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test social studies scale scores of students in early college and selected traditional high schools in the Houston Independent School District. According to the table, the sample mean for the eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test social studies scale scores for early college high school students was 2443.76 and 2330.64 for traditional high schools students. The estimated mean difference for social studies scale scores of early college high school and traditional high school students on the eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test is 113.13. The t value for the independent samples test comparing the means is 6.407. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the social studies scale scores of the early college and traditional high school students on the spring 2009 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average eleventh grade spring

2009 Texas Assessment of Knowledge and Skills test social studies scale scores of early college high school students are between 78.515 and 147.736 points higher than the scale scores of the traditional high school students.

Ninth Grade Spring 2010 Math Scale Scores

Table 59: T-Test Ninth Grade Spring 2010 Math Scale Scores

Group Statistics

	Houston ISD 2010 Grade 9	N	Mean	Std. Deviation	Std. Error Mean
math scale score	ECHS	235	2408.34	256.106	16.707
	Traditional HS	11105	2101.85	345.061	3.274

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
math scale score	Equal variances assumed	7.015	.008	13.537	11338	.000	306.49	22.641	262.113	350.872
	Equal variances not assumed			18.003	252.316	.000	306.49	17.024	272.965	340.021

The attached table displays the results of the independent sample t-test comparing the ninth grade spring 2010 Texas Assessment of Knowledge and Skills test math scale scores of students in early college and selected traditional high schools in the Houston Independent School District. According to the table, the sample mean for the ninth grade spring 2010 Texas Assessment of Knowledge and Skills test math scale scores for early college high school students was 2408.34 and 2101.85 for traditional high schools

students. The estimated mean difference for math scale scores of early college high school and traditional high school students on the ninth grade spring 2010 Texas Assessment of Knowledge and Skills test is 306.49. The t value for the independent samples test comparing the means is 13.537. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the math scale scores of the early college and traditional high school students on the spring 2010 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average ninth grade spring 2010 Texas Assessment of Knowledge and Skills test math scale scores of early college high school students are between 262.113 and 350.872 points higher than the scale scores of the traditional high school students.

Ninth Grade Spring 2010 Reading/ELA Scale Scores

Table 60: T-Test Ninth Grade Spring 2010 Reading/ELA Scale Scores

Group Statistics

	Houston ISD 2010 Grade 9	N	Mean	Std. Deviation	Std. Error Mean
reading/ELA scale score	ECHS	235	2307.83	127.390	8.310
	Traditional HS	11295	2171.07	280.434	2.639

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
reading/ELA scale score	Equal variances assumed	45.480	.000	7.460	11528	.000	136.76	18.333	100.825	172.698
	Equal variances not assumed			15.686	283.506	.000	136.76	8.719	119.600	153.924

The attached table displays the results of the independent sample t-test comparing the ninth grade spring 2010 Texas Assessment of Knowledge and Skills test reading/ELA scale scores of students in early college and selected traditional high schools in the Houston Independent School District. According to the table, the sample mean for the ninth grade spring 2010 Texas Assessment of Knowledge and Skills test reading/ELA scale scores for early college high school students was 2307.84 and 2171.07 for traditional high schools students. The estimated mean difference for reading/ELA scale scores of early college high school and traditional high school students on the ninth grade spring 2010 Texas Assessment of Knowledge and Skills test is 136.76. The t value for the independent samples test comparing the means is 7.460. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the reading/ELA scale scores of the early college and traditional high school students on the spring 2010 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average ninth grade spring 2010 Texas

Assessment of Knowledge and Skills test reading/ELA scale scores of early college high school students are between 100.825 and 172.698 points higher than the scale scores of the traditional high school students.

Tenth Grade Spring 2010 Math Scale Scores

Table 61: T-Test Tenth Grade Spring 2010 Math Scale Scores

Group Statistics

	Houston ISD 2010 Grade 10	N	Mean	Std. Deviation	Std. Error Mean
math scale score	ECHS	221	2297.8145	145.39244	9.78015
	Traditional HS	9215	2168.7837	179.77357	1.87274

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
math scale score	Equal variances assumed	9.808	.002	10.587	9434	.000	129.0308	12.18757	105.14049	152.92103
	Equal variances not assumed			12.958	236.421	.000	129.0308	9.95784	109.41333	148.64819

The attached table displays the results of the independent sample t-test comparing the tenth grade spring 2010 Texas Assessment of Knowledge and Skills test math scale scores of students in early college and selected traditional high schools in the Houston Independent School District. According to the table, the sample mean for the tenth grade spring 2010 Texas Assessment of Knowledge and Skills test math scale scores for early

college high school students was 2297.8145 and 2168.7837 for traditional high schools students. The estimated mean difference for math scale scores of early college high school and traditional high school students on the tenth grade spring 2010 Texas Assessment of Knowledge and Skills test is 129.0308. The t value for the independent samples test comparing the means is 10.587. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the math scale scores of the early college and traditional high school students on the spring 2010 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average tenth grade spring 2010 Texas Assessment of Knowledge and Skills test math scale scores of early college high school students are between 105.14049 and 152.92103 points higher than the scale scores of the traditional high school students.

Tenth Grade Spring 2010 Reading/ELA Scale Scores

Table 62: T-Test Tenth Grade Spring 2010 Reading/ELA Scale Scores

Group Statistics

	Houston ISD 2010 Grade 10	N	Mean	Std. Deviation	Std. Error Mean
reading/ELA scale score	ECHS	219	2345.6484	93.75661	6.33548
	Traditional HS	9338	2232.2351	131.84354	1.36437

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
reading/ELA scale score	Equal variances assumed	28.005	.000	12.655	9555	.000	113.4133	8.96206	95.84580	130.98088
	Equal variances not assumed			17.500	238.677	.000	113.4133	6.48073	100.64661	126.18008

The attached table displays the results of the independent sample t-test comparing the tenth grade spring 2010 Texas Assessment of Knowledge and Skills test reading/ELA scale scores of students in early college and selected traditional high schools in the Houston Independent School District. According to the table, the sample mean for the tenth grade spring 2010 Texas Assessment of Knowledge and Skills test reading/ELA scale scores for early college high school students was 2345.6484 and 2232.2351 for traditional high schools students. The estimated mean difference for reading/ELA scale scores of early college high school and traditional high school students on the tenth grade spring 2010 Texas Assessment of Knowledge and Skills test is 113.4133. The t value for the independent samples test comparing the means is 12.655. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the reading/ELA scale scores of the early college and traditional high school students on the spring 2010 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average tenth grade spring

2010 Texas Assessment of Knowledge and Skills test reading/ELA scale scores of early college high school students are between 95.84580 and 130.98088 points higher than the scale scores of the traditional high school students.

Tenth Grade Spring 2010 Science Scale Scores

Table 63: T-Test Tenth Grade Spring 2010 Science Scale Scores

Group Statistics

	Houston ISD 2010 Grade 10	N	Mean	Std. Deviation	Std. Error Mean
science scale score	ECHS	221	2308.9457	144.86632	9.74476
	Traditional HS	9179	2155.8263	185.97653	1.94116

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
science scale score	Equal variances assumed	17.515	.000	12.151	9398	.000	153.1194	12.60144	128.41782	177.82090
	Equal variances not assumed			15.410	237.797	.000	153.1194	9.93622	133.54510	172.69362

The attached table displays the results of the independent sample t-test comparing the tenth grade spring 2010 Texas Assessment of Knowledge and Skills test science scale scores of students in early college and selected traditional high schools in the Houston Independent School District. According to the table, the sample mean for the tenth grade spring 2010 Texas Assessment of Knowledge and Skills test science scale scores for early college high school students was 2308.9457 and 2155.8263 for traditional high

schools students. The estimated mean difference for science scale scores of early college high school and traditional high school students on the tenth grade spring 2010 Texas Assessment of Knowledge and Skills test is 153.1194. The t value for the independent samples test comparing the means is 12.151. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the science scale scores of the early college and traditional high school students on the spring 2010 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average tenth grade spring 2010 Texas Assessment of Knowledge and Skills test science scale scores of early college high school students are between 128.41782 and 177.82090 points higher than the scale scores of the traditional high school students.

Tenth Grade Spring 2010 Social Studies Scale Scores

Table 64: T-Test Tenth Grade Spring 2010 Social Studies Scale Scores

Group Statistics

	Houston ISD 2010 Grade 10	N	Mean	Std. Deviation	Std. Error Mean
soc. studies scale score	ECHS	221	2448.6335	141.02668	9.48648
	Traditional HS	9001	2307.1706	184.12062	1.94069

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
soc. studies scale score	Equal variances assumed	24.840	.000	11.340	9220	.000	141.4628	12.47444	117.01016	165.91551
	Equal variances not assumed			14.609	238.789	.000	141.4628	9.68295	122.38792	160.53776

The attached table displays the results of the independent sample t-test comparing the tenth grade spring 2010 Texas Assessment of Knowledge and Skills test social studies scale scores of students in early college and selected traditional high schools in the Houston Independent School District. According to the table, the sample mean for the tenth grade spring 2010 Texas Assessment of Knowledge and Skills test social studies scale scores for early college high school students was 2448.6335 and 2307.1706 for traditional high schools students. The estimated mean difference for social studies scale scores of early college high school and traditional high school students on the tenth grade spring 2010 Texas Assessment of Knowledge and Skills test is 141.4628. The t value for the independent samples test comparing the means is 11.340. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the social studies scale scores of the early college and traditional high school students on the spring 2010 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average tenth grade spring

2010 Texas Assessment of Knowledge and Skills test social studies scale scores of early college high school students are between 117.01016 and 165.91551 points higher than the scale scores of the traditional high school students.

Eleventh Grade Spring 2010 Math Scale Scores

Table 65: T-Test Eleventh Grade Spring 2010 Math Scale Scores

Group Statistics

	Houston ISD 2010 Grade 11	N	Mean	Std. Deviation	Std. Error Mean
math scale score	ECHS	182	2386.58	144.329	10.698
	Traditional HS	8656	2228.62	207.921	2.235

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
math scale score	Equal variances assumed	4.626	.032	10.198	8836	.000	157.96	15.490	127.600	188.329
	Equal variances not assumed			14.453	197.133	.000	157.96	10.929	136.411	179.518

The attached table displays the results of the independent sample t-test comparing the eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test math scale scores of students in early college and selected traditional high schools in the Houston Independent School District. According to the table, the sample mean for the eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test math scale scores for early college high school students was 2386.58 and 2228.62 for traditional

high schools students. The estimated mean difference for math scale scores of early college high school and traditional high school students on the eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test is 157.96. The t value for the independent samples test comparing the means is 10.198. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the math scale scores of the early college and traditional high school students on the spring 2010 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test math scale scores of early college high school students are between 127.600 and 188.329 points higher than the scale scores of the traditional high school students.

Eleventh Grade Spring 2010 Reading/ELA Scale Scores

Table 66: T-Test Eleventh Grade Spring 2010 Reading/ELA Scale Scores

Group Statistics

	Houston ISD 2010 Grade 11	N	Mean	Std. Deviation	Std. Error Mean
reading/ELA scale score	ECHS	183	2380.86	150.782	11.146
	Traditional HS	8776	2244.21	213.453	2.279

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
reading/ELA scale score	Equal variances assumed	7.476	.006	8.615	8957	.000	136.65	15.861	105.561	167.744
	Equal variances not assumed			12.012	197.522	.000	136.65	11.377	114.217	159.088

The attached table displays the results of the independent sample t-test comparing the eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test reading/ELA scale scores of students in early college and selected traditional high schools in the Houston Independent School District. According to the table, the sample mean for the eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test reading/ELA scale scores for early college high school students was 2380.86 and 2244.21 for traditional high schools students. The estimated mean difference for reading/ELA scale scores of early college high school and traditional high school students on the eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test is 136.65. The t value for the independent samples test comparing the means is 8.615. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the reading/ELA scale scores of the early college and traditional high school students on the spring 2010 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average

eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test reading/ELA scale scores of early college high school students are between 105.561 and 167.744 points higher than the scale scores of the traditional high school students.

Eleventh Grade Spring 2010 Science Scale Scores

Table 67: T-Test Eleventh Grade Spring 2010 Science Scale Scores

Group Statistics

	Houston ISD 2010 Grade 11	N	Mean	Std. Deviation	Std. Error Mean
science scale score	ECHS	182	2319.17	113.932	8.445
	Traditional HS	8644	2216.37	180.504	1.941

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
science scale score	Equal variances assumed	6.012	.014	7.651	8824	.000	102.80	13.436	76.458	129.134
	Equal variances not assumed			11.863	200.625	.000	102.80	8.666	85.709	119.883

The attached table displays the results of the independent sample t-test comparing the eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test science scale scores of students in early college and selected traditional high schools in the Houston Independent School District. According to the table, the sample mean for the eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test science scale scores for early college high school students was 2319.17 and 2216.37 for traditional

high schools students. The estimated mean difference for science scale scores of early college high school and traditional high school students on the eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test is 102.80. The t value for the independent samples test comparing the means is 7.651. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the science scale scores of the early college and traditional high school students on the spring 2010 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test science scale scores of early college high school students are between 76.485 and 129.134 points higher than the scale scores of the traditional high school students.

Eleventh Grade Spring 2010 Social Studies Scale Scores

Table 68: T-Test Eleventh Grade Spring 2010 Social Studies Scale Scores

Group Statistics

	Houston ISD 2010 Grade 11	N	Mean	Std. Deviation	Std. Error Mean
soc. studies scale score	ECHS	182	2456.13	133.516	9.897
	Traditional HS	8654	2348.73	208.922	2.246

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
soc. studies scale score	Equal variances assumed	11.302	.001	6.905	8834	.000	107.40	15.553	76.912	137.887
	Equal variances not assumed			10.583	200.109	.000	107.40	10.149	87.388	127.411

The attached table displays the results of the independent sample t-test comparing the eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test social studies scale scores of students in early college and selected traditional high schools in the Houston Independent School District. According to the table, the sample mean for the eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test social studies scale scores for early college high school students was 2456.13 and 2348.73 for traditional high schools students. The estimated mean difference for social studies scale scores of early college high school and traditional high school students on the eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test is 107.40. The t value for the independent samples test comparing the means is 6.905. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the social studies scale scores of the early college and traditional high school students on the spring 2010 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average eleventh grade spring

2010 Texas Assessment of Knowledge and Skills test social studies scale scores of early college high school students are between 76.912 and 137.887 points higher than the scale scores of the traditional high school students.

Laredo Independent School District

Ninth Grade Spring 2008 Math Scale Scores

Table 69: T-Test Ninth Grade Spring 2008 Math Scale Scores

Group Statistics

	Laredo ISD 2008 Grade 9	N	Mean	Std. Deviation	Std. Error Mean
math scale score	ECHS	100	2319.27	229.278	22.928
	Traditional HS	1690	1941.19	354.750	8.629

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
math scale score	Equal variances assumed	5.320	.021	10.527	1788	.000	378.08	35.916	307.638	448.521
	Equal variances not assumed			15.433	128.883	.000	378.08	24.498	329.609	426.550

The attached table displays the results of the independent sample t-test comparing the ninth grade spring 2008 Texas Assessment of Knowledge and Skills test math scale scores of students in early college and selected traditional high schools in the Laredo Independent School District. According to the table, the sample mean for the ninth grade

spring 2008 Texas Assessment of Knowledge and Skills test math scale scores for early college high school students was 2319.27 and 1941.19 for traditional high schools students. The estimated mean difference for math scale scores of early college high school and traditional high school students on the ninth grade spring 2008 Texas Assessment of Knowledge and Skills test is 378.08. The t value for the independent samples test comparing the means is 10.527. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the math scale scores of the early college and traditional high school students on the spring 2008 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average ninth grade spring 2008 Texas Assessment of Knowledge and Skills test math scale scores of early college high school students are between 307.638 and 448.521 points higher than the scale scores of the traditional high school students.

Ninth Grade Spring 2008 Reading/ELA Scale Scores

Table 70: T-Test Ninth Grade Spring 2008 Reading/ELA Scale Scores

Group Statistics

	Laredo ISD 2008 Grade 9	N	Mean	Std. Deviation	Std. Error Mean
reading/ELA scale score	ECHS	100	2318.82	165.486	16.549
	Traditional HS	1713	2044.16	289.107	6.985

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
reading/ELA scale score	Equal variances assumed	28.962	.000	9.409	1811	.000	274.66	29.191	217.410	331.913
	Equal variances not assumed			15.291	137.169	.000	274.66	17.962	239.143	310.181

The attached table displays the results of the independent sample t-test comparing the ninth grade spring 2008 Texas Assessment of Knowledge and Skills test reading/ELA scale scores of students in early college and selected traditional high schools in the Laredo Independent School District. According to the table, the sample mean for the ninth grade spring 2008 Texas Assessment of Knowledge and Skills test reading/ELA scale scores for early college high school students was 2318.82 and 2044.16 for traditional high schools students. The estimated mean difference for reading/ELA scale scores of early college high school and traditional high school students on the ninth grade spring 2008 Texas Assessment of Knowledge and Skills test is 274.66. The t value for the independent samples test comparing the means is 9.409. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the reading/ELA scale scores of the early college and traditional high school students on the spring 2008 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average ninth grade spring 2008 Texas

Assessment of Knowledge and Skills test reading/ELA scale scores of early college high school students are between 217.410 and 331.913 points higher than the scale scores of the traditional high school students.

Tenth Grade Spring 2008 Math Scale Scores

Table 71: T-Test Tenth Grade Spring 2008 Math Scale Scores

Group Statistics

	Laredo ISD 2008 Grade 10	N	Mean	Std. Deviation	Std. Error Mean
math scale score	ECHS	92	2310.28	176.808	18.433
	Traditional HS	1265	2104.06	197.413	5.550

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
math scale score	Equal variances assumed	.278	.598	9.739	1355	.000	206.22	21.175	164.679	247.758
	Equal variances not assumed			10.712	108.185	.000	206.22	19.251	168.060	244.377

The attached table displays the results of the independent sample t-test comparing the tenth grade spring 2008 Texas Assessment of Knowledge and Skills test math scale scores of students in early college and selected traditional high schools in the Laredo Independent School District. According to the table, the sample mean for the tenth grade spring 2008 Texas Assessment of Knowledge and Skills test math scale scores for early college high school students was 2310.28 and 2104.06 for traditional high schools

students. The estimated mean difference for math scale scores of early college high school and traditional high school students on the tenth grade spring 2008 Texas Assessment of Knowledge and Skills test is 206.22. The t value for the independent samples test comparing the means is 9.739. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the math scale scores of the early college and traditional high school students on the spring 2008 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average tenth grade spring 2008 Texas Assessment of Knowledge and Skills test math scale scores of early college high school students are between 164.679 and 247.758 points higher than the scale scores of the traditional high school students.

Tenth Grade Spring 2008 Reading/ELA Scale Scores

Table 72: T-Test Tenth Grade Spring 2008 Reading/ELA Scale Scores

Group Statistics

	Laredo ISD 2008 Grade 10	N	Mean	Std. Deviation	Std. Error Mean
reading/ELA scale score	ECHS	92	2322.79	97.994	10.217
	Traditional HS	1291	2186.47	152.963	4.257

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
reading/ELA scale score	Equal variances assumed	15.396	.000	8.424	1381	.000	136.32	16.182	104.581	168.069
	Equal variances not assumed			12.317	125.079	.000	136.32	11.068	114.420	158.230

The attached table displays the results of the independent sample t-test comparing the tenth grade spring 2008 Texas Assessment of Knowledge and Skills test reading/ELA scale scores of students in early college and selected traditional high schools in the Laredo Independent School District. According to the table, the sample mean for the tenth grade spring 2008 Texas Assessment of Knowledge and Skills test reading/ELA scale scores for early college high school students was 2322.79 and 2186.47 for traditional high schools students. The estimated mean difference for reading/ELA scale scores of early college high school and traditional high school students on the tenth grade spring 2008 Texas Assessment of Knowledge and Skills test is 136.32. The t value for the independent samples test comparing the means is 8.424. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the reading/ELA scale scores of the early college and traditional high school students on the spring 2008 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average tenth grade spring 2008 Texas

Assessment of Knowledge and Skills test reading/ELA scale scores of early college high school students are between 104.581 and 168.069 points higher than the scale scores of the traditional high school students.

Tenth Grade Spring 2008 Science Scale Scores

Table 73: T-Test Tenth Grade Spring 2008 Science Scale Scores

Group Statistics

	Laredo ISD 2008 Grade 10	N	Mean	Std. Deviation	Std. Error Mean
science scale score	ECHS	92	2296.45	148.224	15.453
	Traditional HS	1265	2032.08	196.001	5.511

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
science scale score	Equal variances assumed	1.561	.212	12.674	1355	.000	264.36	20.858	223.446	305.281
	Equal variances not assumed			16.113	115.482	.000	264.36	16.407	231.867	296.860

The attached table displays the results of the independent sample t-test comparing the tenth grade spring 2008 Texas Assessment of Knowledge and Skills test science scale scores of students in early college and selected traditional high schools in the Laredo Independent School District. According to the table, the sample mean for the tenth grade spring 2008 Texas Assessment of Knowledge and Skills test science scale scores for early college high school students was 2296.45 and 2032.08 for traditional high schools

students. The estimated mean difference for science scale scores of early college high school and traditional high school students on the tenth grade spring 2008 Texas Assessment of Knowledge and Skills test is 264.36. The t value for the independent samples test comparing the means is 12.674. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the science scale scores of the early college and traditional high school students on the spring 2008 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average tenth grade spring 2008 Texas Assessment of Knowledge and Skills test science scale scores of early college high school students are between 223.446 and 305.281 points higher than the scale scores of the traditional high school students.

Tenth Grade Spring 2008 Social Studies Scale Scores

Table 74: T-Test Tenth Grade Spring 2008 Social Studies Scale Scores

Group Statistics

	Laredo ISD 2008 Grade 10	N	Mean	Std. Deviation	Std. Error Mean
soc. studies scale score	ECHS	92	2393.80	151.738	15.820
	Traditional HS	1159	2143.43	247.244	7.262

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
soc. studies scale score	Equal variances assumed	4.583	.032	9.569	1249	.000	250.37	26.165	199.038	301.703
	Equal variances not assumed			14.383	132.934	.000	250.37	17.407	215.940	284.801

The attached table displays the results of the independent sample t-test comparing the tenth grade spring 2008 Texas Assessment of Knowledge and Skills test social studies scale scores of students in early college and selected traditional high schools in the Laredo Independent School District. According to the table, the sample mean for the tenth grade spring 2008 Texas Assessment of Knowledge and Skills test social studies scale scores for early college high school students was 2393.80 and 2143.43 for traditional high schools students. The estimated mean difference for social studies scale scores of early college high school and traditional high school students on the tenth grade spring 2008 Texas Assessment of Knowledge and Skills test is 250.37. The t value for the independent samples test comparing the means is 9.569. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the social studies scale scores of the early college and traditional high school students on the spring 2008 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average tenth grade spring 2008 Texas

Assessment of Knowledge and Skills test social studies scale scores of early college high school students are between 199.038 and 301.703 points higher than the scale scores of the traditional high school students.

Eleventh Grade Spring 2008 Texas Assessment of Academic Skills Test Scale Scores

The statistical analysis for eleventh grade Texas Assessment of Academic Skills tests could not be conducted, because there were no eleventh grade early college high school students in the Laredo Independent School District during the spring semester of the 2008 academic year.

Ninth Grade Spring 2009 Math Scale Scores

Table 75: T-Test Ninth Grade Spring 2009 Math Scale Scores

Group Statistics

	Laredo ISD 2009 Grade 9	N	Mean	Std. Deviation	Std. Error Mean
math scale score	ECHS	109	2399.4862	223.40279	21.39811
	Traditional HS	896	2090.1016	234.96252	7.84955

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
math scale score	Equal variances assumed	.872	.351	13.048	1003	.000	309.3847	23.71148	262.85489	355.91447
	Equal variances not assumed			13.574	138.719	.000	309.3847	22.79242	264.31921	354.45014

The attached table displays the results of the independent sample t-test comparing the ninth grade spring 2009 Texas Assessment of Knowledge and Skills test math scale scores of students in early college and selected traditional high schools in the Laredo Independent School District. According to the table, the sample mean for the ninth grade spring 2009 Texas Assessment of Knowledge and Skills test math scale scores for early college high school students was 2399.4862 and 2090.1016 for traditional high schools students. The estimated mean difference for math scale scores of early college high school and traditional high school students on the ninth grade spring 2009 Texas Assessment of Knowledge and Skills test is 309.3847. The t value for the independent samples test comparing the means is 13.048. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the math scale scores of the early college and traditional high school students on the spring 2009 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average ninth grade spring 2009 Texas Assessment of Knowledge and Skills test math scale scores of early college high school students are between 262.85489 and 355.91447 points higher than the scale scores of the traditional high school students.

Ninth Grade Spring 2009 Reading/ELA Scale Scores

Table 76: T-Test Ninth Grade Spring 2009 Reading/ELA Scale Scores

Group Statistics

	Laredo ISD 2009 Grade 9	N	Mean	Std. Deviation	Std. Error Mean
reading/ELA scale score	ECHS	109	2300.3761	156.95540	15.03360
	Traditional HS	921	2124.7220	179.06110	5.90026

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
reading/ELA scale score	Equal variances assumed	6.378	.012	9.805	1028	.000	175.6541	17.91540	140.49919	210.80903
	Equal variances not assumed			10.876	143.434	.000	175.6541	16.14999	143.73137	207.57684

The attached table displays the results of the independent sample t-test comparing the ninth grade spring 2009 Texas Assessment of Knowledge and Skills test reading/ELA scale scores of students in early college and selected traditional high schools in the Laredo Independent School District. According to the table, the sample mean for the ninth grade spring 2009 Texas Assessment of Knowledge and Skills test reading/ELA scale scores for early college high school students was 2300.3761 and 2124.7220 for traditional high schools students. The estimated mean difference for reading/ELA scale scores of early college high school and traditional high school students on the ninth grade spring 2009 Texas Assessment of Knowledge and Skills test is 175.6541. The t value for the independent samples test comparing the means is 9.805. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis

can be rejected. According to the independent samples t-test, there is a significant statistical difference between the reading/ELA scale scores of the early college and traditional high school students on the spring 2009 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average ninth grade spring 2009 Texas Assessment of Knowledge and Skills test reading/ELA scale scores of early college high school students are between 140.49919 and 210.80903 points higher than the scale scores of the traditional high school students.

Tenth Grade Spring 2009 Math Scale Scores

Table 77: T-Test Tenth Grade Spring 2009 Math Scale Scores

Group Statistics

	Laredo ISD 2009 Grade 10	N	Mean	Std. Deviation	Std. Error Mean
math scale score	ECHS	96	2294.97	184.759	18.857
	Traditional HS	1327	2083.85	188.966	5.187

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
math scale score	Equal variances assumed	.287	.592	10.586	1421	.000	211.12	19.942	171.999	250.238
	Equal variances not assumed			10.795	109.877	.000	211.12	19.557	172.360	249.877

The attached table displays the results of the independent sample t-test comparing the tenth grade spring 2009 Texas Assessment of Knowledge and Skills test math scale

scores of students in early college and selected traditional high schools in the Laredo Independent School District. According to the table, the sample mean for the tenth grade spring 2009 Texas Assessment of Knowledge and Skills test math scale scores for early college high school students was 2294.97 and 2083.85 for traditional high schools students. The estimated mean difference for math scale scores of early college high school and traditional high school students on the tenth grade spring 2009 Texas Assessment of Knowledge and Skills test is 211.12. The t value for the independent samples test comparing the means is 10.586. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the math scale scores of the early college and traditional high school students on the spring 2009 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average tenth grade spring 2009 Texas Assessment of Knowledge and Skills test math scale scores of early college high school students are between 171.999 and 250.238 points higher than the scale scores of the traditional high school students.

Tenth Grade Spring 2009 Reading/ELA Scale Scores

Table 78: T-Test Tenth Grade Spring 2009 Reading/ELA Scale Scores

Group Statistics

	Laredo ISD 2009 Grade 10	N	Mean	Std. Deviation	Std. Error Mean
reading/ELA scale score	ECHS	96	2317.21	112.509	11.483
	Traditional HS	1343	2149.80	162.547	4.435

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
reading/ELA scale score	Equal variances assumed	11.268	.001	9.921	1437	.000	167.41	16.874	134.309	200.511
	Equal variances not assumed			13.600	125.266	.000	167.41	12.310	143.048	191.772

The attached table displays the results of the independent sample t-test comparing the tenth grade spring 2009 Texas Assessment of Knowledge and Skills test reading/ELA scale scores of students in early college and selected traditional high schools in the Laredo Independent School District. According to the table, the sample mean for the tenth grade spring 2009 Texas Assessment of Knowledge and Skills test reading/ELA scale scores for early college high school students was 2371.21 and 2149.80 for traditional high schools students. The estimated mean difference for reading/ELA scale scores of early college high school and traditional high school students on the tenth grade spring 2009 Texas Assessment of Knowledge and Skills test is 167.41. The t value for the independent samples test comparing the means is 9.921. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the reading/ELA scale scores of the early college and traditional high school students on the spring 2009 Texas Assessment of Knowledge and Skills test. The

95% confidence interval indicates that the average tenth grade spring 2009 Texas Assessment of Knowledge and Skills test reading/ELA scale scores of early college high school students are between 134.309 and 200.511 points higher than the scale scores of the traditional high school students.

Tenth Grade Spring 2009 Science Scale Scores

Table 79: T-Test Tenth Grade Spring 2009 Science Scale Scores

Group Statistics

	Laredo ISD 2009 Grade 10	N	Mean	Std. Deviation	Std. Error Mean
science scale score	ECHS	96	2226.74	194.647	19.866
	Traditional HS	1327	1997.74	204.372	5.610

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
science scale score	Equal variances assumed	.467	.494	10.635	1421	.000	229.00	21.533	186.760	271.239
	Equal variances not assumed			11.093	110.707	.000	229.00	20.643	188.093	269.906

The attached table displays the results of the independent sample t-test comparing the tenth grade spring 2009 Texas Assessment of Knowledge and Skills test science scale scores of students in early college and selected traditional high schools in the Laredo Independent School District. According to the table, the sample mean for the tenth grade spring 2009 Texas Assessment of Knowledge and Skills test science scale scores for

early college high school students was 2226.74 and 1997.74 for traditional high schools students. The estimated mean difference for science scale scores of early college high school and traditional high school students on the tenth grade spring 2009 Texas Assessment of Knowledge and Skills test is 229.00. The t value for the independent samples test comparing the means is 10.635. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the science scale scores of the early college and traditional high school students on the spring 2009 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average tenth grade spring 2009 Texas Assessment of Knowledge and Skills test science scale scores of early college high school students are between 186.760 and 271.239 points higher than the scale scores of the traditional high school students.

Tenth Grade Spring 2009 Social Studies Scale Scores

Table 80: T-Test Tenth Grade Spring 2009 Social Studies Scale Scores

Group Statistics

	Laredo ISD 2009 Grade 10	N	Mean	Std. Deviation	Std. Error Mean
soc. studies scale score	ECHS	96	2407.18	171.611	17.515
	Traditional HS	1226	2134.45	276.952	7.910

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
soc. studies scale score	Equal variances assumed	7.307	.007	9.505	1320	.000	272.73	28.694	216.434	329.016
	Equal variances not assumed			14.191	137.257	.000	272.73	19.218	234.723	310.727

The attached table displays the results of the independent sample t-test comparing the tenth grade spring 2009 Texas Assessment of Knowledge and Skills test social studies scale scores of students in early college and selected traditional high schools in the Laredo Independent School District. According to the table, the sample mean for the tenth grade spring 2009 Texas Assessment of Knowledge and Skills test social studies scale scores for early college high school students was 2407.18 and 2134.45 for traditional high schools students. The estimated mean difference for social studies scale scores of early college high school and traditional high school students on the tenth grade spring 2009 Texas Assessment of Knowledge and Skills test is 272.73. The t value for the independent samples test comparing the means is 9.505. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the social studies scale scores of the early college and traditional high school students on the spring 2009 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average tenth grade spring 2009 Texas

Assessment of Knowledge and Skills test social studies scale scores of early college high school students are between 216.434 and 329.016 points higher than the scale scores of the traditional high school students.

Eleventh Grade Spring 2009 Math Scale Scores

Table 81: T-Test Eleventh Grade Spring 2009 Math Scale Scores

Group Statistics

	Laredo ISD 2009 Grade 11	N	Mean	Std. Deviation	Std. Error Mean
math scale score	ECHS	87	2365.21	196.859	21.105
	Traditional HS	1094	2192.16	219.947	6.650

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
math scale score	Equal variances assumed	.163	.686	7.115	1179	.000	173.05	24.322	125.331	220.770
	Equal variances not assumed			7.820	103.842	.000	173.05	22.128	129.169	216.933

The attached table displays the results of the independent sample t-test comparing the eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test math scale scores of students in early college and selected traditional high schools in the Laredo Independent School District. According to the table, the sample mean for the eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test math scale

scores for early college high school students was 2365.21 and 2192.16 for traditional high schools students. The estimated mean difference for math scale scores of early college high school and traditional high school students on the eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test is 173.05. The t value for the independent samples test comparing the means is 7.115. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the math scale scores of the early college and traditional high school students on the spring 2009 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test math scale scores of early college high school students are between 125.331 and 220.770 points higher than the scale scores of the traditional high school students.

Eleventh Grade Spring 2009 Reading/ELA Scale Scores

Table 82: T-Test Eleventh Grade Spring 2009 Reading/ELA Scale Scores

Group Statistics

	Laredo ISD 2009 Grade 11	N	Mean	Std. Deviation	Std. Error Mean
reading/ELA scale score	ECHS	87	2376.26	123.490	13.239
	Traditional HS	1101	2212.92	165.441	4.986

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
reading/ELA scale score	Equal variances assumed	3.731	.054	9.011	1186	.000	163.34	18.126	127.777	198.904
	Equal variances not assumed			11.546	111.948	.000	163.34	14.147	135.310	191.372

The attached table displays the results of the independent sample t-test comparing the eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test reading/ELA scale scores of students in early college and selected traditional high schools in the Laredo Independent School District. According to the table, the sample mean for the eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test reading/ELA scale scores for early college high school students was 2376.26 and 2212.92 for traditional high schools students. The estimated mean difference for reading/ELA scale scores of early college high school and traditional high school students on the eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test is 163.34. The t value for the independent samples test comparing the means is 9.011. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the reading/ELA scale scores of the early college and traditional high school students on the spring 2009 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average

eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test reading/ELA scale scores of early college high school students are between 127.777 and 198.904 points higher than the scale scores of the traditional high school students.

Eleventh Grade Spring 2009 Science Scale Scores

Table 83: T-Test Eleventh Grade Spring 2009 Science Scale Scores

Group Statistics

	Laredo ISD 2009 Grade 11	N	Mean	Std. Deviation	Std. Error Mean
science scale score	ECHS	87	2293.11	156.735	16.804
	Traditional HS	1094	2134.18	173.128	5.234

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
science scale score	Equal variances assumed	1.801	.180	8.296	1179	.000	158.94	19.158	121.351	196.526
	Equal variances not assumed			9.031	103.422	.000	158.94	17.600	124.035	193.842

The attached table displays the results of the independent sample t-test comparing the eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test science scale scores of students in early college and selected traditional high schools in the Laredo Independent School District. According to the table, the sample mean for the eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test science scale

scores for early college high school students was 2293.11 and 2134.18 for traditional high schools students. The estimated mean difference for science scale scores of early college high school and traditional high school students on the eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test is 158.94. The t value for the independent samples test comparing the means is 8.296. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the science scale scores of the early college and traditional high school students on the spring 2009 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test science scale scores of early college high school students are between 121.351 and 196.526 points higher than the scale scores of the traditional high school students.

Eleventh Grade Spring 2009 Social Studies Scale Scores

Table 84: T-Test Eleventh Grade Spring 2009 Social Studies Scale Scores

Group Statistics

	Laredo ISD 2009 Grade 11	N	Mean	Std. Deviation	Std. Error Mean
soc. studies scale score	ECHS	87	2425.94	144.326	15.473
	Traditional HS	1094	2257.06	165.808	5.013

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
soc. studies scale score	Equal variances assumed	.008	.928	9.226	1179	.000	168.88	18.306	132.967	204.798
	Equal variances not assumed			10.383	104.910	.000	168.88	16.265	136.631	201.133

The attached table displays the results of the independent sample t-test comparing the eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test social studies scale scores of students in early college and selected traditional high schools in the Laredo Independent School District. According to the table, the sample mean for the eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test social studies scale scores for early college high school students was 2425.94 and 2257.06 for traditional high schools students. The estimated mean difference for social studies scale scores of early college high school and traditional high school students on the eleventh grade spring 2009 Texas Assessment of Knowledge and Skills test is 168.88. The t value for the independent samples test comparing the means is 9.226. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the social studies scale scores of the early college and traditional high school students on the spring 2009 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average eleventh grade spring

2009 Texas Assessment of Knowledge and Skills test social studies scale scores of early college high school students are between 132.967 and 204.798 points higher than the scale scores of the traditional high school students.

Ninth Grade Spring 2010 Math Scale Scores

Table 85: T-Test Ninth Grade Spring 2010 Math Scale Scores

Group Statistics

	Laredo ISD 2010 Grade 9	N	Mean	Std. Deviation	Std. Error Mean
math scale score	ECHS	103	2378.36	230.133	22.676
	Traditional HS	1741	2028.73	349.291	8.371

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
math scale score	Equal variances assumed	5.075	.024	10.029	1842	.000	349.62	34.861	281.254	417.995
	Equal variances not assumed			14.464	131.554	.000	349.62	24.172	301.809	397.440

The attached table displays the results of the independent sample t-test comparing the ninth grade spring 2010 Texas Assessment of Knowledge and Skills test math scale scores of students in early college and selected traditional high schools in the Laredo Independent School District. According to the table, the sample mean for the ninth grade spring 2010 Texas Assessment of Knowledge and Skills test math scale scores for early college high school students was 2378.36 and 2028.73 for traditional high schools

students. The estimated mean difference for math scale scores of early college high school and traditional high school students on the ninth grade spring 2010 Texas Assessment of Knowledge and Skills test is 349.62. The t value for the independent samples test comparing the means is 10.029. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the math scale scores of the early college and traditional high school students on the spring 2010 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average ninth grade spring 2010 Texas Assessment of Knowledge and Skills test math scale scores of early college high school students are between 281.254 and 417.995 points higher than the scale scores of the traditional high school students.

Ninth Grade Spring 2010 Reading/ELA Scale Scores

Table 86: T-Test Ninth Grade Spring 2010 Reading/ELA Scale Scores

Group Statistics

	Laredo ISD 2010 Grade 9	N	Mean	Std. Deviation	Std. Error Mean
reading/ELA scale score	ECHS	103	2344.15	121.808	12.002
	Traditional HS	1770	2096.13	302.777	7.197

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
reading/ELA scale score	Equal variances assumed	28.307	.000	8.273	1871	.000	248.01	29.980	189.213	306.809
	Equal variances not assumed			17.722	187.139	.000	248.01	13.994	220.404	275.618

The attached table shows the results of the independent sample t-test comparing the ninth grade spring 2010 Texas Assessment of Knowledge and Skills test reading/ELA scale scores of students in early college and selected traditional high schools in the Laredo Independent School District. According to the table, the sample mean for the ninth grade spring 2010 Texas Assessment of Knowledge and Skills test reading/ELA scale scores for early college high school students was 2344.15 and 2096.13 for traditional high schools students. The estimated mean difference for reading/ELA scale scores of early college high school and traditional high school students on the ninth grade spring 2010 Texas Assessment of Knowledge and Skills test is 248.01. The t value for the independent samples test comparing the means is 8.273. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the reading/ELA scale scores of the early college and traditional high school students on the spring 2010 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average ninth grade spring 2010 Texas

Assessment of Knowledge and Skills test reading/ELA scale scores of early college high school students are between 189.213 and 306.809 points higher than the scale scores of the traditional high school students.

Tenth Grade Spring 2010 Math Scale Scores

Table 87: T-Test Tenth Grade Spring 2010 Math Scale Scores

Group Statistics

	Laredo ISD 2010 Grade 10	N	Mean	Std. Deviation	Std. Error Mean
math scale score	ECHS	101	2308.2376	185.29637	18.43768
	Traditional HS	1159	2160.0630	159.77761	4.69326

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
math scale score	Equal variances assumed	5.117	.024	8.819	1258	.000	148.1746	16.80245	115.21072	181.13856
	Equal variances not assumed			7.788	113.338	.000	148.1746	19.02563	110.48265	185.86663

The attached table displays the results of the independent sample t-test comparing the tenth grade spring 2010 Texas Assessment of Knowledge and Skills test math scale scores of students in early college and selected traditional high schools in the Laredo Independent School District. According to the table, the sample mean for the tenth grade spring 2010 Texas Assessment of Knowledge and Skills test math scale scores for early college high school students was 2308.2376 and 2160.0630 for traditional high schools

students. The estimated mean difference for math scale scores of early college high school and traditional high school students on the tenth grade spring 2010 Texas Assessment of Knowledge and Skills test is 148.1746. The t value for the independent samples test comparing the means is 8.819. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the math scale scores of the early college and traditional high school students on the spring 2010 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average tenth grade spring 2010 Texas Assessment of Knowledge and Skills test math scale scores of early college high school students are between 115.21072 and 181.13856 points higher than the scale scores of the traditional high school students.

Tenth Grade Spring 2010 Reading/ELA Scale Scores

Table 88: T-Test Tenth Grade Spring 2010 Reading/ELA Scale Scores

Group Statistics

	Laredo ISD 2010 Grade 10	N	Mean	Std. Deviation	Std. Error Mean
reading/ELA scale score	ECHS	101	2317.9208	84.40364	8.39848
	Traditional HS	1157	2208.0994	118.52967	3.48466

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
reading/ELA scale score	Equal variances assumed	9.949	.002	9.110	1256	.000	109.8214	12.05442	86.17239	133.47041
	Equal variances not assumed			12.078	137.043	.000	109.8214	9.09270	91.84125	127.80154

The attached table displays the results of the independent sample t-test comparing the tenth grade spring 2010 Texas Assessment of Knowledge and Skills test reading/ELA scale scores of students in early college and selected traditional high schools in the Laredo Independent School District. According to the table, the sample mean for the tenth grade spring 2010 Texas Assessment of Knowledge and Skills test reading/ELA scale scores for early college high school students was 2317.9208 and 2208.0994 for traditional high schools students. The estimated mean difference for reading/ELA scale scores of early college high school and traditional high school students on the tenth grade spring 2010 Texas Assessment of Knowledge and Skills test is 109.8214. The t value for the independent samples test comparing the means is 9.110. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the reading/ELA scale scores of the early college and traditional high school students on the spring 2010 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average tenth grade spring

2010 Texas Assessment of Knowledge and Skills test reading/ELA scale scores of early college high school students are between 86.17239 and 133.47041 points higher than the scale scores of the traditional high school students.

Tenth Grade Spring 2010 Science Scale Scores

Table 89: T-Test Tenth Grade Spring 2010 Science Scale Scores

Group Statistics

	Laredo ISD 2010 Grade 10	N	Mean	Std. Deviation	Std. Error Mean
science scale score	ECHS	101	2258.1584	129.35329	12.87113
	Traditional HS	1147	2083.7001	147.35023	4.35080

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
science scale score	Equal variances assumed	2.396	.122	11.514	1246	.000	174.4583	15.15240	144.73130	204.18536
	Equal variances not assumed			12.840	124.017	.000	174.4583	13.58659	147.56669	201.34997

The attached table displays the results of the independent sample t-test comparing the tenth grade spring 2010 Texas Assessment of Knowledge and Skills test science scale scores of students in early college and selected traditional high schools in the Laredo Independent School District. According to the table, the sample mean for the tenth grade spring 2010 Texas Assessment of Knowledge and Skills test science scale scores for

early college high school students was 2258.1584 and 2083.7001 for traditional high schools students. The estimated mean difference for science scale scores of early college high school and traditional high school students on the tenth grade spring 2010 Texas Assessment of Knowledge and Skills test is 174.4583. The t value for the independent samples test comparing the means is 11.514. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the science scale scores of the early college and traditional high school students on the spring 2010 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average tenth grade spring 2010 Texas Assessment of Knowledge and Skills test science scale scores of early college high school students are between 144.73130 and 204.18536 points higher than the scale scores of the traditional high school students.

Tenth Grade Spring 2010 Social Studies Scale Scores

Table 90: T-Test Tenth Grade Spring 2010 Social Studies Scale Scores

Group Statistics

	Laredo ISD 2010 Grade 10	N	Mean	Std. Deviation	Std. Error Mean
soc. studies scale score	ECHS	101	2434.2178	153.19534	15.24351
	Traditional HS	1146	2249.6614	164.18733	4.85006

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
soc. studies scale score	Equal variances assumed	.545	.460	10.886	1245	.000	184.5564	16.95317	151.29646	217.81632
	Equal variances not assumed			11.537	121.163	.000	184.5564	15.99649	152.88756	216.22522

The attached table displays the results of the independent sample t-test comparing the tenth grade spring 2010 Texas Assessment of Knowledge and Skills test social studies scale scores of students in early college and selected traditional high schools in the Laredo Independent School District. According to the table, the sample mean for the tenth grade spring 2010 Texas Assessment of Knowledge and Skills test social studies scale scores for early college high school students was 2434.2178 and 2249.6614 for traditional high schools students. The estimated mean difference for social studies scale scores of early college high school and traditional high school students on the tenth grade spring 2010 Texas Assessment of Knowledge and Skills test is 184.5564. The t value for the independent samples test comparing the means is 10.886. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the social studies scale scores of the early college and traditional high school students on the spring 2010 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average tenth grade spring

2010 Texas Assessment of Knowledge and Skills test social studies scale scores of early college high school students are between 151.29646 and 217.81632 points higher than the scale scores of the traditional high school students.

Eleventh Grade Spring 2010 Math Scale Scores

Table 91: T-Test Eleventh Grade Spring 2010 Math Scale Scores

Group Statistics

	Laredo ISD 2010 Grade 11	N	Mean	Std. Deviation	Std. Error Mean
math scale score	ECHS	91	2344.77	160.156	16.789
	Traditional HS	1065	2210.80	181.402	5.559

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
math scale score	Equal variances assumed	.067	.796	6.821	1154	.000	133.97	19.641	95.430	172.501
	Equal variances not assumed			7.575	110.700	.000	133.97	17.685	98.920	169.011

The attached table displays the results of the independent sample t-test comparing the eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test math scale scores of students in early college and selected traditional high schools in the Laredo Independent School District. According to the table, the sample mean for the eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test math scale scores for early college high school students was 2344.77 and 2210.80 for traditional

high schools students. The estimated mean difference for math scale scores of early college high school and traditional high school students on the eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test is 133.97. The t value for the independent samples test comparing the means is 6.821. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the math scale scores of the early college and traditional high school students on the spring 2010 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test math scale scores of early college high school students are between 95.430 and 172.501 points higher than the scale scores of the traditional high school students.

Eleventh Grade Spring 2010 Reading/ELA Scale Scores

Table 92: T-Test Eleventh Grade Spring 2010 Reading/ELA Scale Scores

Group Statistics

	Laredo ISD 2010 Grade 11	N	Mean	Std. Deviation	Std. Error Mean
reading/ELA scale score	ECHS	89	2366.89	168.480	17.859
	Traditional HS	1079	2212.13	179.970	5.479

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
reading/ELA scale score	Equal variances assumed	.445	.505	7.834	1166	.000	154.76	19.755	115.995	193.515
	Equal variances not assumed			8.284	105.268	.000	154.76	18.680	117.717	191.794

The attached table displays the results of the independent sample t-test comparing the eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test reading/ELA scale scores of students in early college and selected traditional high schools in the Laredo Independent School District. According to the table, the sample mean for the eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test reading/ELA scale scores for early college high school students was 2366.89 and 2212.13 for traditional high schools students. The estimated mean difference for reading/ELA scale scores of early college high school and traditional high school students on the eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test is 154.76. The t value for the independent samples test comparing the means is 7.834. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the reading/ELA scale scores of the early college and traditional high school students on the spring 2010 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average

eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test reading/ELA scale scores of early college high school students are between 115.995 and 193.515 points higher than the scale scores of the traditional high school students.

Eleventh Grade Spring 2010 Science Scale Scores

Table 93: T-Test Eleventh Grade Spring 2010 Science Scale Scores

Group Statistics

	Laredo ISD 2010 Grade 11	N	Mean	Std. Deviation	Std. Error Mean
science scale score	ECHS	91	2316.22	121.936	12.782
	Traditional HS	1065	2159.70	155.013	4.750

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
science scale score	Equal variances assumed	.061	.805	9.386	1154	.000	156.52	16.676	123.798	189.237
	Equal variances not assumed			11.478	116.385	.000	156.52	13.636	129.510	183.525

The attached table displays the results of the independent sample t-test comparing the eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test science scale scores of students in early college and selected traditional high schools in the Laredo Independent School District. According to the table, the sample mean for the eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test science scale

scores for early college high school students was 2316.22 and 2159.70 for traditional high schools students. The estimated mean difference for science scale scores of early college high school and traditional high school students on the eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test is 156.52. The t value for the independent samples test comparing the means is 9.386. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the science scale scores of the early college and traditional high school students on the spring 2010 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test science scale scores of early college high school students are between 123.798 and 189.237 points higher than the scale scores of the traditional high school students.

Eleventh Grade Spring 2010 Social Studies Scale Scores

Table 94: T-Test Eleventh Grade Spring 2010 Social Studies Scale Scores

Group Statistics

	Laredo ISD 2010 Grade 11	N	Mean	Std. Deviation	Std. Error Mean
soc. studies scale score	ECHS	91	2413.92	132.475	13.887
	Traditional HS	1066	2277.14	167.849	5.141

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
soc. studies scale score	Equal variances assumed	1.356	.245	7.574	1155	.000	136.78	18.060	101.346	172.213
	Equal variances not assumed			9.237	116.174	.000	136.78	14.808	107.451	166.109

The attached table displays the results of the independent sample t-test comparing the eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test social studies scale scores of students in early college and selected traditional high schools in the Laredo Independent School District. According to the table, the sample mean for the eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test social studies scale scores for early college high school students was 2413.92 and 2277.14 for traditional high schools students. The estimated mean difference for social studies scale scores of early college high school and traditional high school students on the eleventh grade spring 2010 Texas Assessment of Knowledge and Skills test is 136.78. The t value for the independent samples test comparing the means is 7.574. The p value for the test is .000, which is below the required .05 significance level. In this case the null hypothesis can be rejected. According to the independent samples t-test, there is a significant statistical difference between the social studies scale scores of the early college and traditional high school students on the spring 2010 Texas Assessment of Knowledge and Skills test. The 95% confidence interval indicates that the average eleventh grade spring

2010 Texas Assessment of Knowledge and Skills test social studies scale scores of early college high school students are between 101.346 and 172.213 points higher than the scale scores of the traditional high school students.

Qualitative Data Analysis

This portion of the research study report will describe the data obtained from student questionnaires and focus groups related to student retention, achievement on state academic assessments, and college course completion.

Cognitive Pre-Test of Questionnaire Question: Preparing for the questionnaire

During the spring of 2010, a cognitive pre-test of the questionnaire questions was conducted on selected students not enrolled at any of the schools intended for inclusion in the research study. The subjects of the cognitive pretest were senior students at traditional high schools who had completed, or were enrolled, in dual credit classes. Ten senior students from two traditional high schools in the Austin Independent School District were asked to give their interpretation of the questions that were to be part of the questionnaire. It was stressed to the students that they should not answer the question, but only give their interpretation of what the question was asking them. It was discovered that students did not have the same interpretation of 'retention" in question 1 as was implied by the study. Some of the students interpreted "retention" in question 1 as the amount of information that a student would remember from classroom instruction, not keeping a student in school through graduation. From the information discovered in this exercise, question 1 was adjusted to conform to the input given from the students interviewed in

the cognitive pre-test. Questions 2 and 3 were interpreted by the students as expected by the researcher and were left with practically the same wording.

Online Questionnaire

Schools, or school districts, provided a list of senior students that were enrolled at the early college high schools at the time the student information was requested. Notice to solicit participation letters, questionnaire information, and consent forms were sent to one-fifth of the senior students contained on the lists provided by the schools or school districts. Senior students from East Early College High School were sent notice to solicit participation letters, questionnaire information, and consent forms during the spring of 2010 and the fall of 2010. Laredo Early College High School, Challenge Early College High School, and Trinidad "Trini" Garza Early College High School at Mountain View College were sent notice to solicit participation letters, questionnaire information, and consent forms during the fall of 2010. Overall, 100 students, from the schools selected as part of the research study, were sent notice to solicit participation letters, questionnaire information, and consent documents. From this group of students 10 students completed responses to the questionnaire. Appendix C contains an example of the online questionnaire that was completed by students who agreed to participate in the questionnaire portion of the research study and student responses that were given.

Analysis of Questionnaire Responses

Student responses to the online questionnaire were entered into the Nvivo qualitative statistical analysis program and coded for different attributes that were stated in the responses. Some of the student responses contained information that qualified to be

coded under several different categories, so in some cases the same reference may be quoted under several different category reference descriptions. The following section describes the results of the coding analysis for student questionnaire responses by question.

Question 1: What practices or strategies (ex: special programs, mentoring, counseling, etc.) does your campus utilize that have prevented you from dropping out of high school during the time that you have attended your campus?

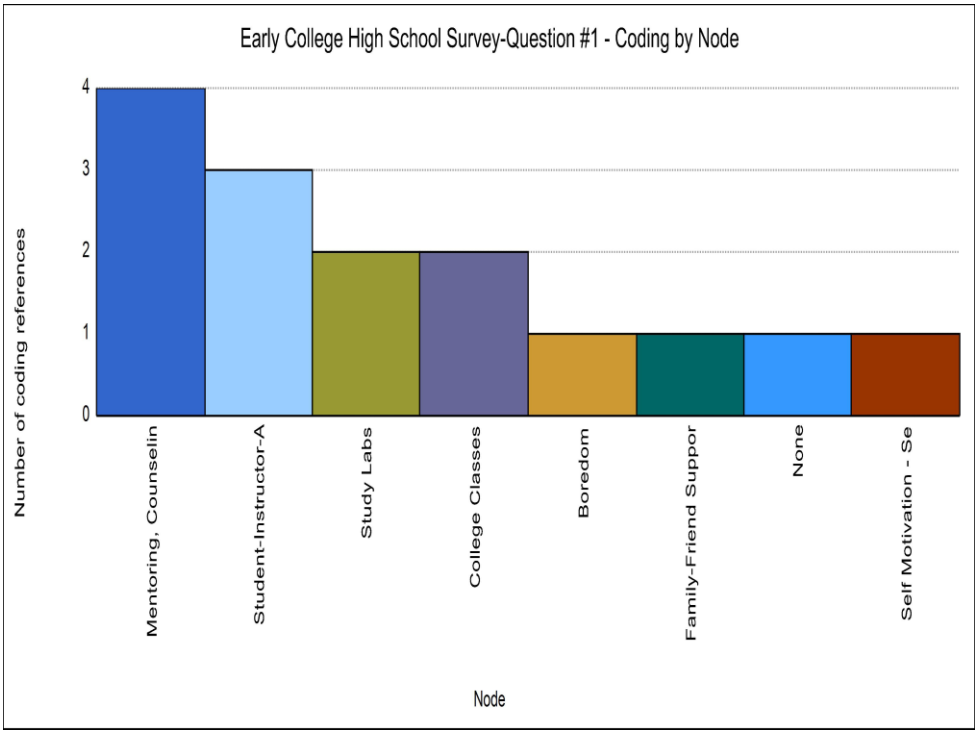

Table 95: Early College High School Survey-Question #1-Coding by Node

During the process of coding the responses for their specific attributes related to school programs designed to promote student retention, the following coding categories

were found to be appropriate; boredom, exposure to college classes, family-friend support, mentoring/counseling/tutoring/peer tutoring, self-motivation/self-determination/self-satisfaction, student-instructor-administrator interaction, and study labs.

Mentoring/Counseling/Tutoring/Peer Tutoring

The response with the highest frequency (4 out of 15 references) was in the mentoring/counseling/tutoring/peer tutoring category. The factor that these student responses had in common was their reference to some type of mentoring, tutoring, or counseling program that influenced the student's retention in the early college high school program. An example of a student response in this category was "Teacher support, counseling, and peer tutoring". This statement provides an excellent example of how the responses referenced mentoring, counseling, or tutoring.

Other statements did not explicitly state programs related to mentoring, counseling, or tutoring, however, they did imply that these types of practices or programs were in place to motivate the students to stay in school through graduation. One student responded with, "By the time I graduate with my diploma, I will also graduate with 60+ hours of college, which earns my Associates Degree, which is Science in my case. That was definitely what kept me most motivated. On top of that, National Honor Society and our College Counselor also kept me motivated." In this case, the student mentioned the counseling received the college counselor, and how that was an influence on retaining him or her in the early college high school program. Another example of a subtle suggestion in a student's response that implied that there was some influence by mentoring, counseling, or tutoring practices that assisted in the retention of students in

the early high school program was, "The personal and family environment produced at the school. All the staff gave me great support." In this case, the student implied that mentoring support from the staff of the early college high school program prevented them from dropping out of school before graduation.

Student/Teacher/Administrator

The second most prevalent category (3 out of 15 references) that emerged from questionnaire data relating to question #1 was student/teacher/administrator interaction. In these cases, student responses indicated that the interactions between instructors, administrators, and students were an influence in their retention in the early college high school program. In some cases, the student responses explicitly stated instructors or administrators as being influences in their retention. Statements such as,

> I think the Challenge environment itself provides the enthusiasm and drive to do well and challenge you. Most students attending Challenge come in with the mentality of being prepared for college, so dropping out is not an option for any of us if we want to graduate with a high school diploma and an Associate. But if a student does not have this mindset, teachers and administrators meet with the student and parents and discuss what they can do in order to help that student become successful. We have high standards and when students cannot or won't abide by them, Challenge has the right to kick them out

exemplify one of the responses in which a student explicitly refers to how the interactions of students, instructors, and administrators provide the motivation for retention in the early college high school program. Statements such as, "The

personal and family environment produced at the school. All the staff gave me support" imply that instructors and administrators provided support to the students that prevented them from dropping out of the program.

The next two categories had two references for question #1. The categories of study labs, and college classes were explicitly stated in the responses as factors in student retention at the early college high school. In the case of the college classes category, both responses suggested that the ability to take college classes, while concurrently finishing their public high school graduation requirements, was a motivating factor in promoting their retention in the early college high school program.

The last four categories (boredom, family friend support, none, and self-motivation/self-determination/self-satisfaction) were each referenced one time from student responses.

Question 2: What are any other factors (during school or outside of school) that have prevented you from dropping out of high school during the time that you have attended your campus?

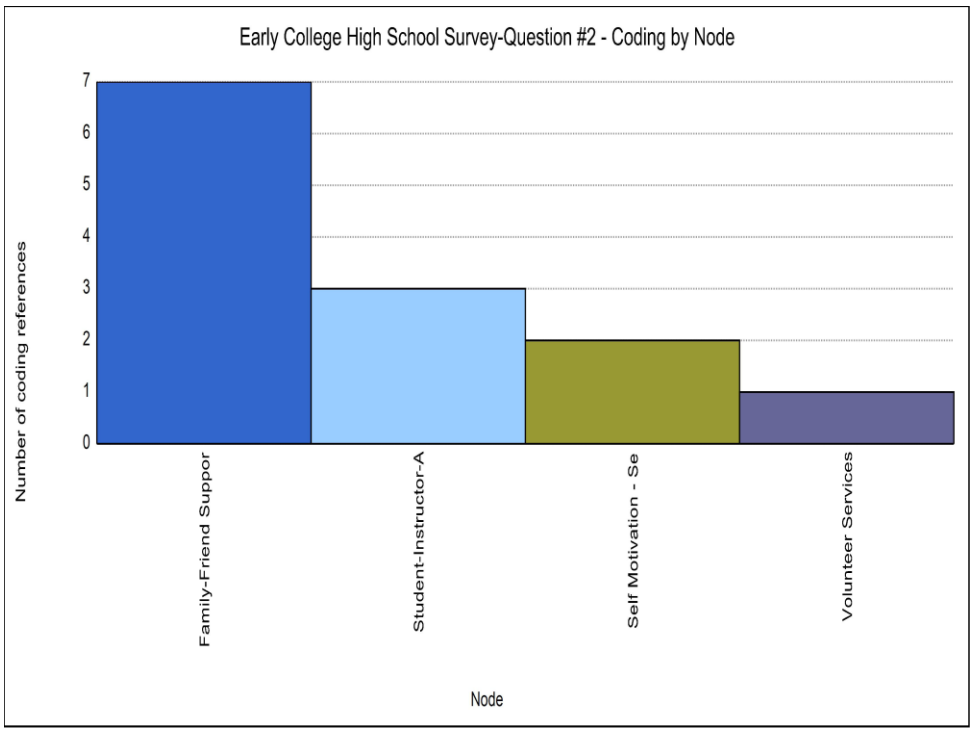

Table 96: Early College High School Survey-Question #2-Coding by Node

Responses for this question were coded into four categories. The coding categories for this question included family-friend support, student-instructor-administrator interaction, self-motivation/self-determination/self-satisfaction, and volunteer services.

Family-friend support

This was the most prevalent category in question #2 (7 out of 13 references), and had the same attributes as were described for the response references in question #1. One of the examples of some of some of the responses was "Well, with all the support from all my family and good friends, there was also the encouragement from the teachers. They encouraged me to push my limits and perform above my own standards." In this response exemplifying the family/friend support category, the attributes of family and

friend support were explicitly stated in the response. In all of the references for this category, the responses referred to family, friends, parents or siblings as the motivating factors that promoted student retention in the early high school program.

Student-Instructor-Administrator Interaction

Student-instructor-administrator interaction was the second most prevalent category in question #2 (3 out of 13 references). The attributes of this category were previously described in the response references for question #1. In all of these responses, teachers were referenced as the main contributors to the retention the students in the early college high school program. Examples of these responses were "Well with all the support from all my family and good friends, there was also the encouragement from the teachers. They encouraged me to push my limits and perform above my own standards", "My friends and the teachers", and "Great Teachers and Friends".

Volunteer Services

This category registered one response from the questionnaire. The student responded with "Doing volunteer services and my parents' encouragement to better myself." This response described how outside volunteer services had a motivational effect on the retention of the student in the early high school program.

Question 3: What practices does your campus utilize that have promoted high academic achievement on state standardized tests (TAKS test scores) during the time that you have attended your campus?

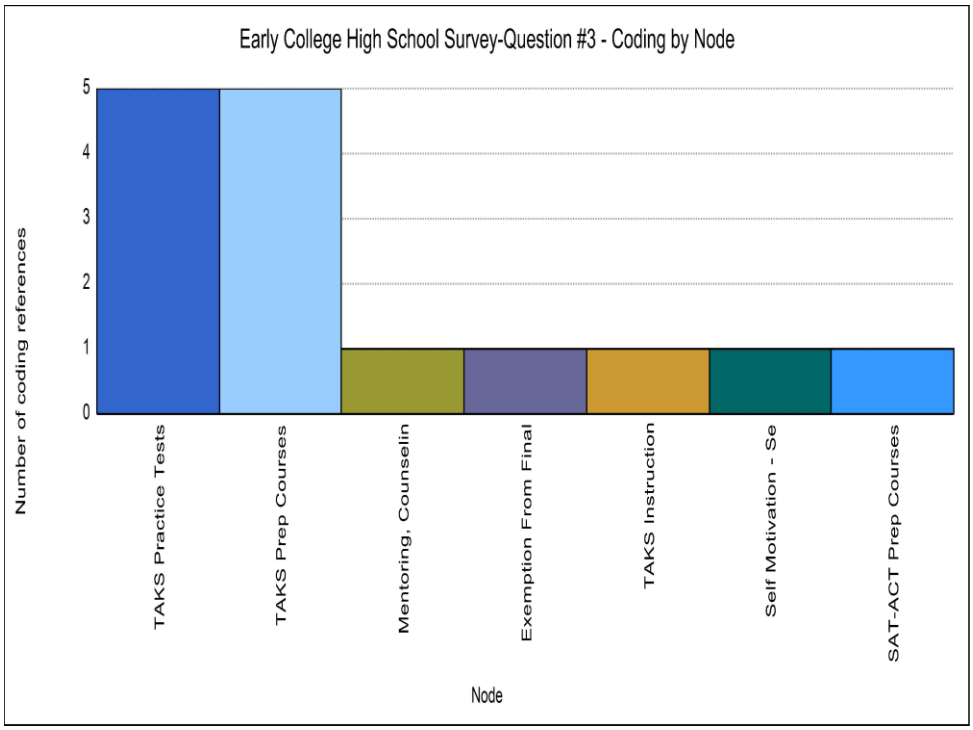

Table 97: Early College High School Survey-Question #3-Coding by node

For this question, there were seven categories of responses that were referenced from the questionnaire. These categories were TAKS practice tests, TAKS prep courses, mentoring/counseling/tutoring/peer tutoring, exemption from final exams, TAKS instruction, self-motivation/self-determination/self-satisfaction, and SAT-ACT prep courses.

TAKS Practice Tests

This category was referenced 5 out of 15 tines from student responses for question #3. In the TAKS practice test category, all of the student responses explicitly referenced TAKS practice tests as being the motivating factor that promoted academic achievement on standardized state academic assessments. An example of a typical response to this question was, “My school has prepared us by not only continuing our

regular curriculum but at the same time giving us practice work and exams specifically for TAKS. The practice exams that we have were treated like the real thing and therefore prepared us on what to expect, taking more than one also helped because we could see the areas in which we needed help and our improvements." Other examples of student responses included, "Tutoring, practice testing." and " TAKING MULTIPLE PRACTICE TESTS AND AFTER SCHOOL HELP AS WELL".

TAKS Prep Courses

This category was also referenced 5 out of 15 times from the student responses for question #3. The student's response for this category was, "We were provided a class, TAKS Math, Science, Math, to help our test taking skills, as well as to prepare us for the real test. And we also had classes to prepare us for the SAT and ACT." As seen in the student's response, a specific course was implemented at the early college high school to specifically address academic achievement on standardized state academic assessments.

The remaining 5 categories (mentoring/counseling/tutoring/peer tutoring, exemption from final exams, TAKS instruction, self motivation/self determination/self satisfaction, and SAT-ACT prep courses) were each referenced once from the student surveys.

Question 4: What are any other factors (during school or outside of school) that have promoted high academic achievement on state standardized tests (TAKS test scores) during the time that you have attended your campus?

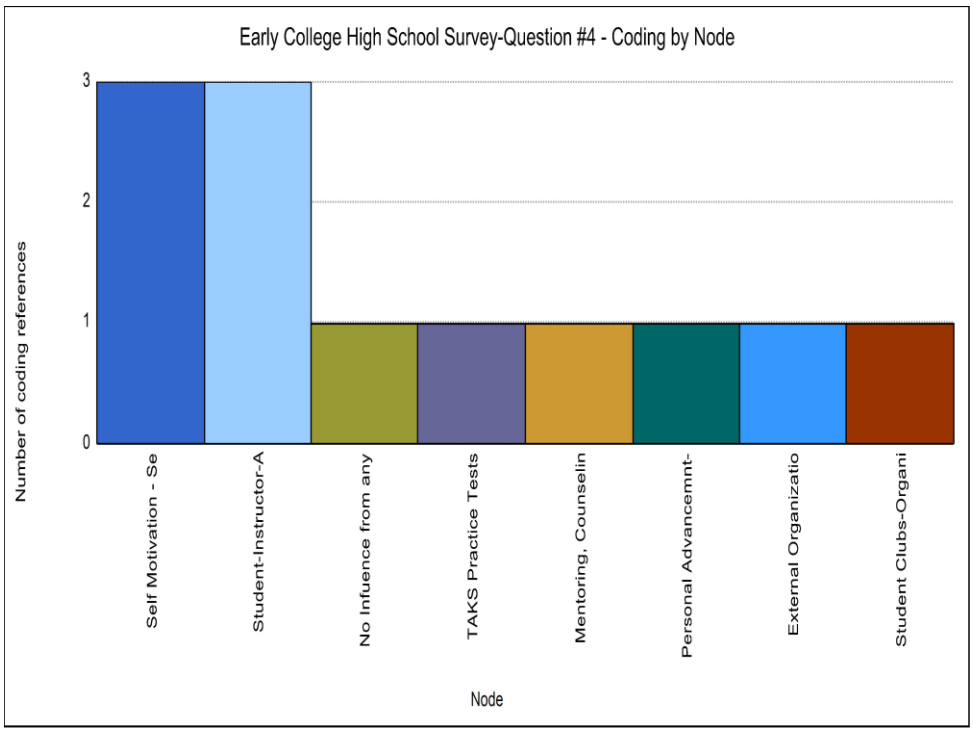

Table 98: Early College High School Survey-Question #4-Coding by Node

There were eight categories of student responses submitted for question #4 of the questionnaire. These categories were self-motivation/self-determination/self-satisfaction, student/instructor/administrator interaction, no influence from any source, TAKS practice tests, mentoring/counseling/tutoring/peer tutoring, personal advancement/academic achievement, external organizations, and student clubs-organizations.

Self-Motivation/Self-Determination/Self-Satisfaction

This category was referenced three times by student responses. One of the student responses stated, "With the teachers encouraging me to perform above my standards, they also pushed me to perform way above the set bar. Also, I felt as though I needed to

improve for myself." From the students response it is apparent that the student had an internal motivation to improve their academic standing.

Student/Instructor/Administrator Interaction

This category was also referenced three times by student responses. In each of the responses, the students referenced the teacher interaction as a major influence in their achievement on state standardized tests. One particular response stating, "With the teachers encouraging me to perform above my standards, they also pushed me to perform way above the set bar. Also, I felt as though I needed to improve for myself", conveys the importance of the teacher influence on the student motivation and preparation for high performance on state standardized academic assessments.

The remaining categories (no influence from any source, TAKS practice tests, mentoring/counseling/tutoring/peer tutoring, personal advancement/academic achievement, external organizations, and student clubs-organizations) were referenced once each from the student surveys.

Question 5: What practices does your campus utilize that have promoted college credit course completion (dual credit course completion) during the time that you have attended your campus?

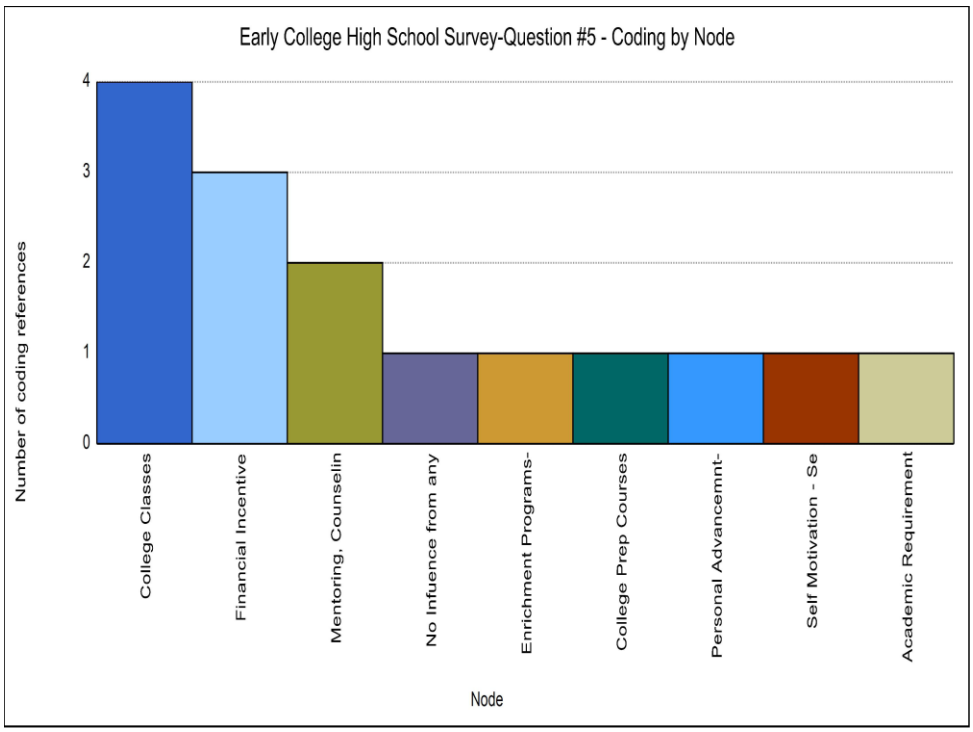

Table 99: Early College High School Survey-Question #5-Coding by Node

There were nine categories of student responses submitted for question #5 of the questionnaire. These categories were college classes, financial incentive, mentoring/counseling/tutoring/peer tutoring, no influence from any source, enrichment programs-classes, college prep courses-classes, personal advancement/academic achievement, self-motivation/self-determination/self-satisfaction, and academic requirements.

College Classes

College classes was the most prevalent referenced category (4 out of 15 responses) for this question. The references to this category did not indicate a specific program at the early college high school that motivated or encouraged the student to

compete college credit courses during high school. The student response of the availability of college classes referred to the school as a pathway to receive college credit. The student responses identified the early college high school environment as a place where one is expected to earn college credits. The student response, "Um... our school is basically one big college-during-high school program" suggests that the student has already accepted the expectation of earning college credits as part of her early college high school experience.

Financial Incentive

The second most prevalent response identified the financial incentive of earning college credits during high school years as a motivation to successfully complete college classes. Early college high school students have access to college classes at no cost to them during their high school years. The students of the early college high school are well aware of their opportunity as revealed in statements such as "The main one would definitely have to be paying for our Associates Degree, not only does it save our families a lot of money but it also saves me two years of college time that I can spend getting even more education" and "PROMISE OF SUCCESS AND ACADEMIC ACHIEVEMENT. ALSO BEING ABLE TO SAVE MONEY AND COMPLETE COLLEGE FASTER."

Mentoring/Counseling/Tutoring/Peer Tutoring

The third most prevalent response referenced for question five of the questionnaire was the mentoring/counseling/tutoring/peer tutoring category. This category was referenced 2 out of 15 times for question five on the survey. In these

responses, students expressed their opinion that some form of mentoring or tutoring had an influence on their success in completing college credit courses during the time that they attended the early college high school. An example of the student responses for this category is, “Counseling, and experience from other students” and “After-School Tutorials, Blackboard.”

The remaining categories (no influence from any source, enrichment programs-classes, college prep courses-classes, personal advancement/academic achievement, self motivation/self determination/self satisfaction, and academic requirements) were referenced once each from the student surveys.

Question 6: What are any other factors (during school or outside of school) that have promoted college credit course completion (dual credit course completion) during the time that you have attended your campus?

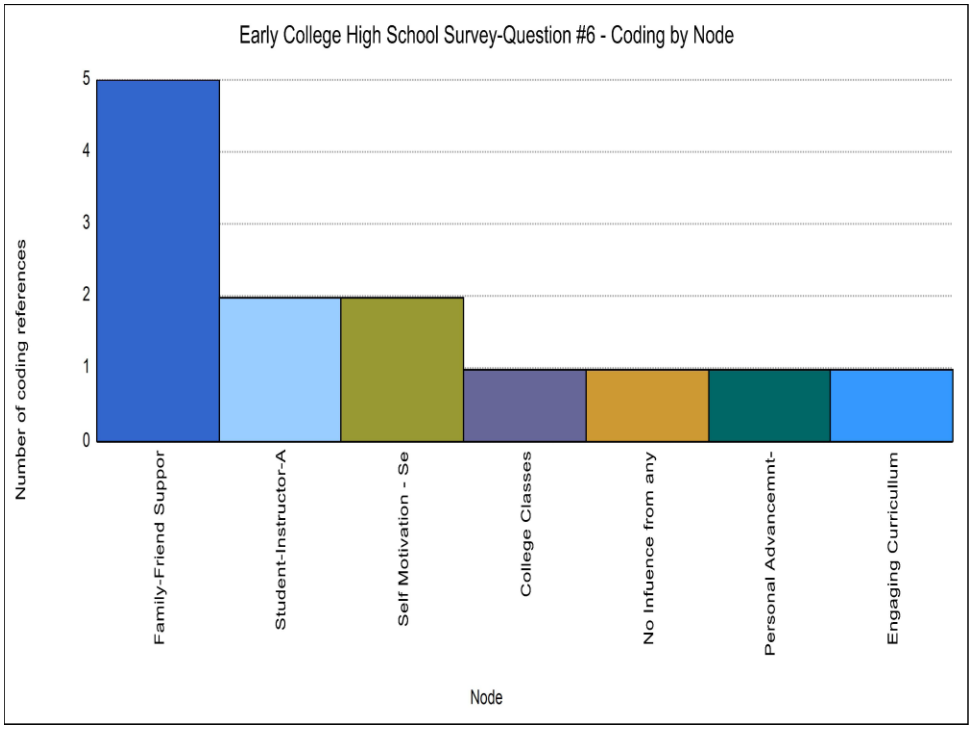

Table 100: Early College High School Survey-Question #6-Coding by Node

There were seven categories of student responses submitted for question #6 of the questionnaire. These categories were family-friend support, student/instructor/administrator interaction, self motivation/self determination/self satisfaction, college classes, no influence from any source, personal advancement/academic achievement, and engaging curriculum.

Family-Friend Support

Family-friend support was the most prevalent response (5 out of 13 responses) to this question. Responses in this category specifically mentioned family, friends, and relatives as being a major influence in their success in completing college credit courses. Student responses such as, "My family telling me I should complete all my hours. My church for encouraging me to go on" and "My friends and the fact that I did not want to fail any classes." were examples of the students' expression of the influence their family and friends had on the college course completion success

Student/Instructor/Administrator Interaction

The category that was referenced in 2 out of 13 responses was student/instructor/administrator interaction. The students expressed that this category as being a major influence, outside of the school programming, on their successful completion of college credit courses during the time they were enrolled in the early college high school. Statements, such as "My mother was one specific factor, since she has been through the process before. She guided me through, as well as the instructors for all their material. The instructors were great, if I had a question they would answer with

the right answer" and "Teachers, Parents" are examples of the responses given by students for this category.

Self Motivation/Self Determination

Another category that was referenced in 2 out of 13 responses was self motivation/self determination. This category was referenced 2 out of 15 times for question #5 on the survey. In these responses, students expressed their opinion that self motivation/self determination had an influence on their success in completing college credit courses during the time that they attended the early college high school. The student response, "The fact that it will look good on my resume" is an example of the student's expression that self motivation played a major role in promoting success in college credit course completion.

The remaining categories (college classes, no influence from any source, personal advancement/academic achievement, and engaging curriculum) were referenced once each from the student surveys.

Analysis of Focus Group Responses

Student responses to the focus group questions were transcribed from audio recordings, entered into the Nvivo qualitative statistical analysis program, and coded for different attributes that were stated in the responses. Challenge Early College High School and East Early college High School responses were coded separately. Some of the student responses contained information that qualified to be coded under several different categories, so in some cases the same reference may be quoted under several different

category reference descriptions. The following section describes the results of the coding analysis for focus group responses by question.

Challenge Early College High School

Question 1: What practices or strategies (ex: special programs, mentoring, counseling, etc.) does your campus utilize that have prevented you from dropping out of high school during the time that you have attended your campus?

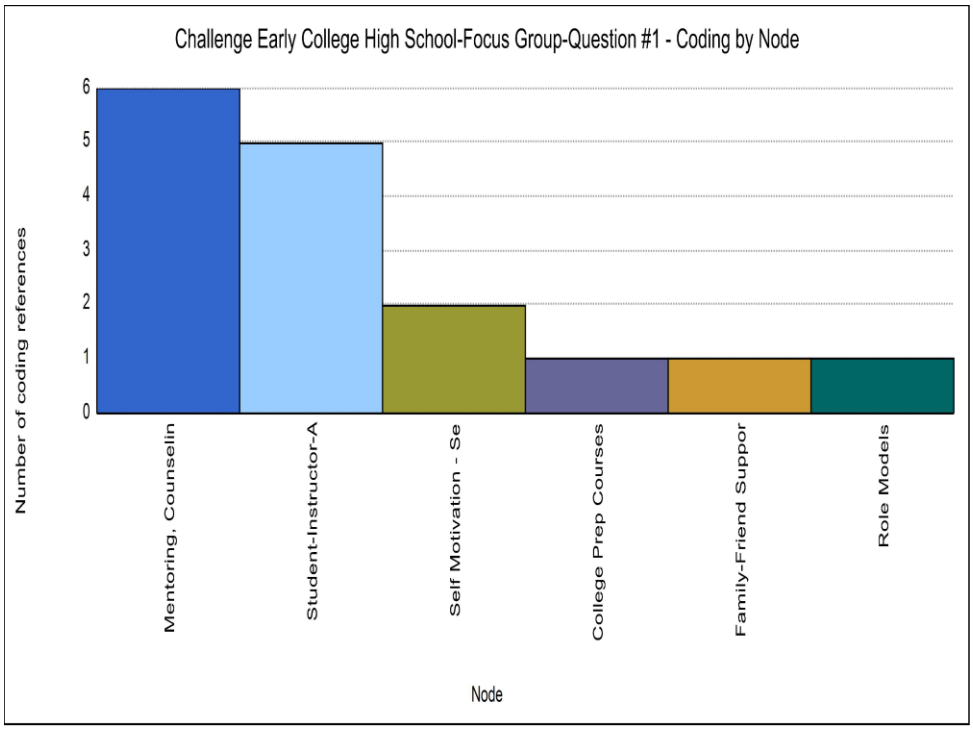

Table 101: Challenge Early College High School-Focus Group-Question #1-Coding by Node

Responses to this question fell into six categories; mentoring/counseling/tutoring/peer tutoring, student/instructor/administrator interaction, self motivation/self determination/self satisfaction, college prep courses-classes, friend/family support, and role models.

Mentoring/Counseling/Tutoring/ Peer Tutoring

This category was the most prevalent reference for question #1 (6 out of 16 references). Most of the responses expressed the importance of the guidance/counseling or tutoring sessions as being a major influence in their retention in the early college high school program. One example of a student response that referenced guidance/counseling as an important influence was,

> One of the things that kind of stopped me from dropping out of high school was that I was able to sit down with our counselor Ms. Webber and she was able to talk me through it and tell me it is possible you just have to take one step at a time and you'll finish high school with everybody else just take it one-step at a time and other kinds of counselors they don't do that in other high schools.

This statement is an adequate representation of the types of responses that referenced guidance/counseling as a major influence in the students' retention success.

Student responses containing references to tutoring were also frequently mentioned in this category. Student responses, such as,

> At Challenge the work is really stressful but I know they've implemented so many tutorials and study halls and study guides for you that it just helps you a lot because the work will get overwhelming and we have like two days set aside for study hall. Then you have time after school and then you have the study hall period, so they help us a lot with studying and teachers will work with you one-on-one. I know Mr. Morales he is an excellent Math teacher, he will set aside a lot of time for one child just so that they

> can understand the concept. That just shows that they're passionate about helping us succeed.

are examples of references student made about the importance of tutorial sessions toward their retention in the early high school program.

Student/Instructor/Administrator Interaction

This category was the second most prevalent reference (5 out of 16 references) from Challenge Early College High School student answers to question #1. In these responses, the students specifically mentioned their relationships with the teachers as a major role in their retention. One statement that exemplifies these types of responses was,

> Well, I'm not sure that it's really a strategy the school uses, but the close relationship that we have with the teachers, being able to know them on a more personal level actually really helped a lot with me wanting to stay in school. Because, basically, what they've lived through was kind of an inspiration to me. I know some teachers that have PhDs and have been working for larger businesses, and in the end they just want to have a more steady job as a teacher and that kind of inspires me, I want to be successful. Most of them are at a pretty young age compared to most who, actually quit their jobs or retired from their jobs. So that kind of inspires me to want to be able to reach that kind of level of success as well.

This response describes the value that the student placed on the student-teacher interaction and how important it was to their retention.

Self Motivation/Self Determination/Self Satisfaction

This category was the third most prevalent reference (2 out of 16 references) from Challenge Early College High School student answers to question #1. In these two responses, the students mention how their self motivation and self satisfaction we key to their retention in the early college high school until their senior year. Student statements in this category included,

> And school doesn't have to be a big challenge it can be something that's easy as long as you put your mind to it" and "…you just have to finish high school for yourself that's how I look at it. It's for your own benefit just go at it for your own success it's your choice whether you want to finish high school or not. That's my perspective.

The remaining categories (college prep courses-classes, friend/family support, and role models) were referenced once each from the Challenge Early College High School focus group responses.

Question 2: What are any other factors (during school or outside of school) that have prevented you from dropping out of high school during the time that you have attended your campus?

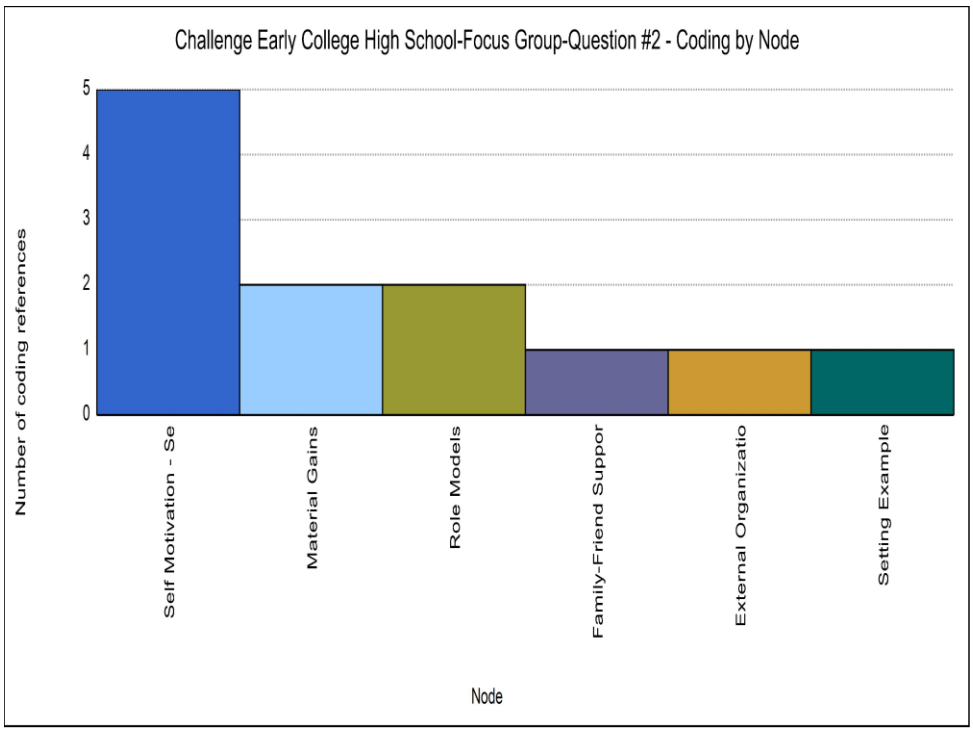

Table 102: Challenge Early College High School-Focus Group-Question #2-Coding by Node

Responses to question #2 fell into six categories; self motivation/self determination/self satisfaction, material gains, role models, family/friend support, external organizations, and setting example.

Self Motivation/Self Determination/Self Satisfaction

This category was the most prevalent reference for question #2 (5 out of 12 references). These responses described an internal motivation, external to early college high school programming, that lead them to finish the early college high school program. Many of the responses expressed a drive to advance higher than their parents, or other family members, as being a major influence in their retention in the early college high

school program. One example of a student response that referenced self motivation/self determination/self satisfaction as an important influence was,

> My parents were raised in Mexico so over there you're not forced to go to school and they only finished middle school and so that kind of pushed me to say 'I don't want to be like my parents and only finish middle school.' I want to finish at least high school and probably some college degree. So that kind of just kept me from going out.

This statement is a representation of the types of responses that referenced self motivation/self determination/self satisfaction as a major influence in the students' retention success.

Material Gains

This category was tied with the role model category as the second most prevalent reference (5 out of 16 references) from Challenge Early College High School focus group student answers to question #2. In these responses, the students specifically mentioned their prospect of obtaining material gains in the future as a major role in their retention.

In one statement, the student described how the prospect of finishing high school and college was specifically desired to be able to afford a certain type of car in the future. The student stated,

> I guess more ambition that makes me really want to be successful and finish high school and a college career. Because my dream is to actually have a 1969 Corvette Sting Ray and I really, really want that car and if it means going to school and going through all that stuff just to have enough

> money to buy one and actually fix it up and reconstruct it then yea I might as well go for it.

In the second statement,

> With both my parents being educators they have always instilled in me that I don't necessarily have to go to college but I should and that it's for my own benefit to. So myself liking the finer things in life, I want to get a job I want all these things that are materialistic so I know that I have to work hard to get them. Whenever I make good grades, it feels good and my parents they give me things, an incentive to do better so I think my parents have a lot to do with me going through school the way that I do.

the student mentioned the prospect of obtaining the "finer things in life" as a motivating factor in their retention in the early high school program. These statements are representations of the types of responses that referenced material gains as a major influence in the students' retention success.

Role Models

This category was tied with the material gains category as the second most prevalent reference (5 out of 16 references) from Challenge Early College High School focus group student answers to question #2. In these responses, the students specifically mentioned the influence of role models as a major motivation in their retention. Both responses to this category mentioned how their parents were role models that influenced their retention. On example of this type of response was,

> I find that my outside inspiration would be my parents seeing that they came from another country and they necessarily didn't go through the

> middle school, high school they came from another country and went straight into college having to go through many different jobs just to make ends meet to pay for college books, college dues, all that type of stuff. So that's inspiration for me basically in the sense that I have it easier than they did to actually go to college and actually get money to, well not necessarily money but have an easier way to get into college than they did because they came from a different county.

In the second response,

> Both of my parents were originally high school dropouts and then they went back to school and they became administrators at high schools. Actually, my dad was the dean at this one when I first came here. So that kind of inspired me because I didn't actually want to have to go through all the hard work that they went through. Because they dropped out, had me then went back and had to go through all that while having jobs and that just doesn't sound fun to me. So that was my big influential thing.

the student mentioned how the example their parents set, by going back to school after dropping out, had influenced their retention in the early college high school program.

The remaining categories (family/friend support, external organizations, and setting example) were referenced once each from the Challenge Early College High School focus group responses.

Question 3: What practices does your campus utilize that have promoted high academic achievement on state standardized tests (TAKS test scores) during the time that you have attended your campus?

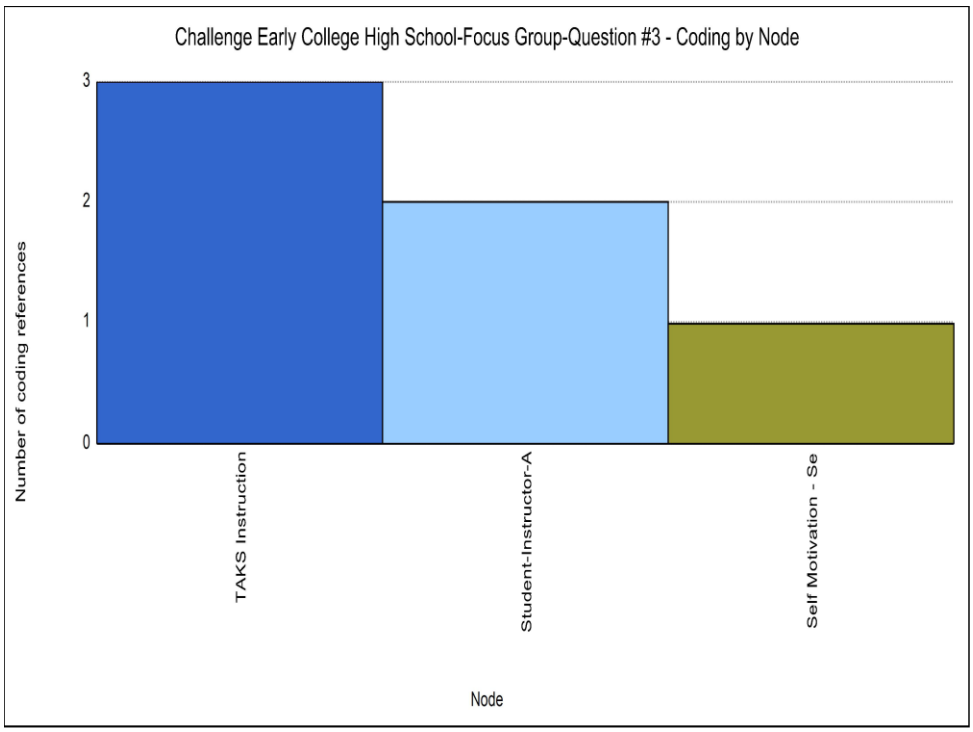

Table 103: Challenge Early College High School-Focus Group-Question #3-Coding by Node

Responses to question #3 were coded into three categories; TAKS instruction, student/instructor/administrator interaction, and self motivation/self determination/self satisfaction.

TAKS Instruction

This category was the most prevalent reference for question #3 (3 out of 6 references). These responses expressed the influence of Texas Assessment of Knowledge and Skills (TAKS) test instruction programs on their successful performance on the test. In one of the responses, the student mentioned instruction that was implemented by individual teachers as being a positive influence on their test performance. The student stated, "Individual teachers they just give you practice for the TAKS itself, so they just actually try to prepare you, each teacher depending upon the subject you're taking." In

this statement, the student specifically indicated that the teacher's influence on their successful test performance was important.

In one of the responses, the student mentioned how school-wide programs influenced the successful performance of the early college high school students on the TAKS test. The student stated,

> It was just about last year when we were preparing for the TAKS and seeing that most juniors actually took history during the summer, the school actually set aside Friday's for us to actually review previous TAKS packets based on History, that way we could get a better understanding and not loose information that was learned, or taught to us throughout the time.

In this statement, the student implied that a school-wide program, implemented by the staff of the early college high school, had a positive influence on the successfully TAKS test performance by the early college high school students.

The third student response to question #3 mentioned both teacher and school-wide program influence on the early college high school student's success on the TAKS test. The student stated,

> In addition to what O said, J said the teachers got us study guides and stuff, but I remember they had an assembly for us when they told us the seniors had a hundred percent. They passed like every single TAKS, so that just made it competition for us and made us at least… because you can't beat a hundred percent, so we wanted to at least match them so that just made us want to do better.

In this response, the student mentioned both the instruction from teachers and a school-wide program as being an influence on the successful performance of the early college high school students on the TAKS test.

Student/Teacher/Administrator Interaction

This category was the second most prevalent reference (2 out of 6 references) from Challenge Early College High School student answers to question #3. In these responses, the students specifically mentioned teachers, or their relationships with the teachers, as a major role in their successful performance on the TAKS test. One particular statement that exemplified the relationship between the teachers and the students as being an influence on successful TAKS test performance was,

> Not only was it the pressure sometimes since were so tightly knit with the teachers and the staff but years before, we had one teacher who actually shaved her hair. The students got to cut her hair, she dyed it blue and it was incentive for you, if we got exemplary or something on the TAKS, commended performance on the TAKS she would do that. It was about four or five years ago, and so, that was neat to see because this teacher is very stern and it wasn't like her to dye her hair blue and get it cut off.

This response describes the value that the student placed on the student-teacher interaction and how important it was to their successful performance on the TAKS test.

Self Motivation/Self Determination/Self Satisfaction

This category was referenced 1 out of 6 times by student responses to question #3. The student statement, "We have a principle who is from New York and he is very

competitive about everything and so when we had that assembly he went up there and he was like

> yea the seniors from last year they got a hundred percent so you've got to do better than them, bla, bla, bla. So of course, we felt that we needed to but on top of that, just the academics that we get here already they're already so high that to be honest the TAKS was just like one of those things that we had to get done and put in our past. It was just like, we got to get it done so that we don't have to do it next year but it was pretty easy honestly, for most people I know just because of the academics that were already set" described how the announcement by the principal of the early college highs school to the students about the senior TAKS scores instilled an internal motivation in the early college high school students to outperform the previous class.

Question 4: What are any other factors (during school or outside of school) that have promoted high academic achievement on state standardized tests (TAKS Test Scores) during the time that you have attended your campus?

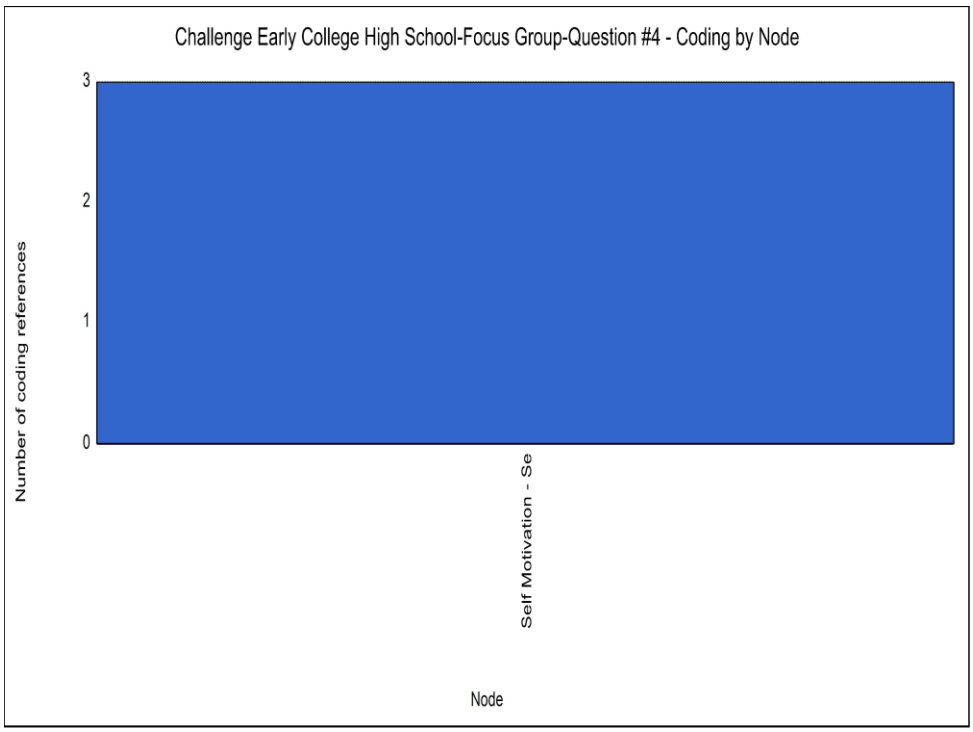

Table 104: Challenge Early College High School-Focus Group-Question #4-Coding by Node

There were three total student responses to question #4. All of the responses fell into one category; self motivation/self determination/self satisfaction. In all of the responses, the students expressed that, external to school instruction or programming, knowing that passing the TAKS exit exam would lead to them not having to take the test again in the future influenced their achievement on the TAKS test. On example of this type of response was,

> Another big thing is that when you pass your TAKS junior year of course you don't have to take it senior year because it's your exiting year, and so just the fact that we would have earned the free time this year like when everyone else is taking TAKS we're going to be able to just breath, take our college stuff all that other stuff, I think that that was a really big

incentive. I wanted to get it done and I wanted to pass I didn't have to deal with it again, so that was a big thing.

In this statement, the student specifically mentioned the influence of knowing that they would eventually not have to take the TAKS test in the future, if they were to pass it during their junior year, played a major role in their success on the TAKS test.

5. What practices does your campus utilize that have promoted college credit course completion (dual credit course completion) during the time that you have attended your campus?

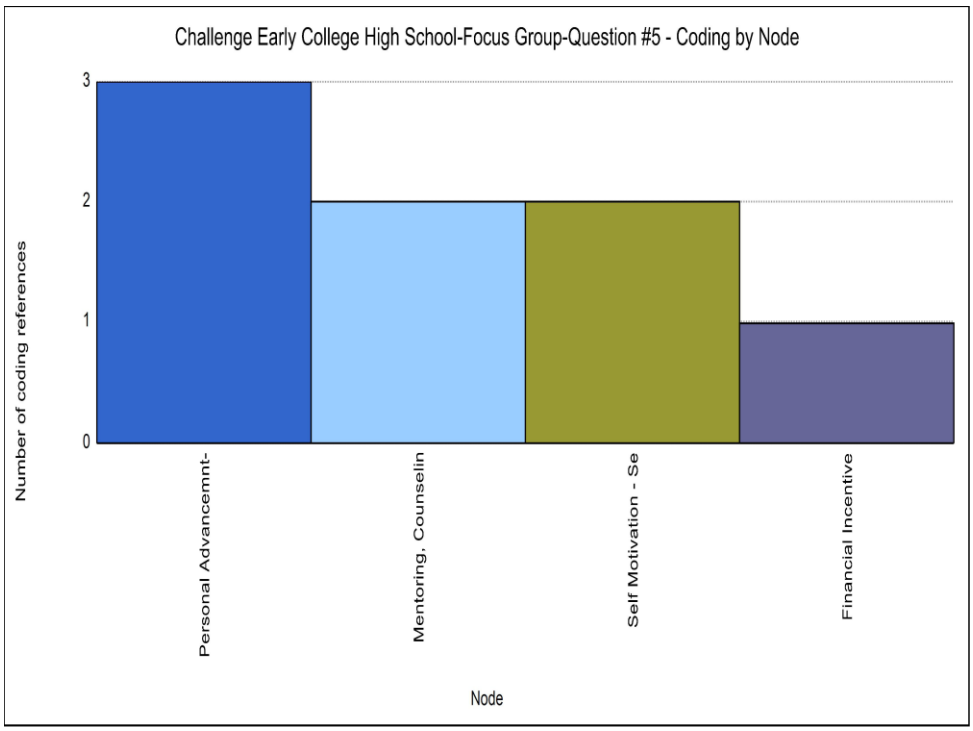

Table 105: Challenge Early College High School-Focus Group-Question #5-Coding by Node

Responses to question #5 fell into four categories; personal advancement/academic achievement, mentoring/counseling/tutoring/peer tutoring, role

models, self motivation/self determination/self satisfaction, and financial incentive.

Personal Advancement/Academic Achievement

This category was the most prevalent reference for question #5 (3 out of 8 references). All of the responses for this category, in some way, mentioned the advantage of gaining college credit as a major motivator in successfully completing college credit courses during the early college high school program. In one of the responses, the students specifically mentioned how the college credit classes they are completing during their early college high school program are part of the student's future college record, and that they must perform successfully in these classes to preserve a clean college record. In this case the student stated,

> Well, what really made me want to complete my college credit was knowing that whatever classes I take right now actually affect me in the future, when I'm actually at a university. So right now, if I fail a couple of college classes it's going to be on my permanent transcript and all that stuff. So when I want to go to like graduate school they're going to say that I failed a few classes at a community college so that's going to be pretty bad for me in the future. So basically starting now and not to mess myself up in the future.

The second response to this category, which mentioned the advantage shortening the time required to complete a college degree. The student response in this case was,

> I think another big thing is it's kind of in a way to shortened your school amount, like a lot of people after they're done with high school they're going to have to take most of the classes that we've already taken and

> that's two years added on and so for us that's two years subtracted from college for us. I think that's really cool and then like Jeremiah said ratemyprofessor.com saved us.

The third response to this category mentioned the student's desire to avoid having to struggle to attain a college degree, as did some members of their family. In this case, the student responded with

> I guess one of the reasons I want to finish, I want to precede in striving to get good grades in my college classes because my sister is twenty-seven and she hasn't even received her bachelor's degree and I'm pretty much done with my associate's. She barely reached an associate's degree in nursing so I don't want to be in the same boat as she was in.

Mentoring/Counseling/Tutoring/Peer Tutoring

This category was tied with the self motivation/self determination/self satisfaction category as the second most prevalent reference (2 out of 8 references) from Challenge Early College High School focus group student answers to question #5. In these responses, the students mentioned mentoring/counseling/tutoring/peer tutoring as a major influence on their successful completion of college credit courses. Specifically, both responses focused on how advice from the upper-class students at the early college high school offered motivated them to successfully pass their college credit courses. One example of this type of response was,

> I guess it wouldn't be more of the school but the student's themselves from previous experience actually telling other classmen this is what this course was like, this is what the teacher is, this is how the class functions.

> Because when I was a freshman I knew seniors that wouldn't necessarily go to class and we would wonder oh wasn't you supposed to be taking a college class and they would be like "yep, but I'm skipping". Well I just didn't understand why they would do that seeing that they're getting free college and not taking advantage of the opportunity. So that in a way I guess encouraged me or motivated me not to do the things that they did because even until now once in awhile I will even see the same people from our freshman year back on their C-side taking classes that they could have already passed and been done with when they were in high school. I guess it's not a program but more like a motivation.

Self Motivation/Self Determination/Self Satisfaction

This category was tied with the mentoring/counseling/tutoring/peer tutoring category as the second most prevalent reference (2 out of 8 references) from Challenge Early College High School focus group student answers to question #5. In these responses, the students mentioned mentoring/counseling/tutoring/peer tutoring as a major influence on their successful completion of college credit courses. In both of the responses, the student stated that they were intrinsically motivated to successfully complete their college credit classes in order to create an acceptable college transcript in the future.

Financial Incentive

This category was referenced 1 out of 6 times during the student responses to question #5. In this response, the student mentioned that the ability to save the tuition

expenses of completing college credit courses during her enrollment at the early college high school influenced her to successfully complete the college credit courses. The student response to the questions was,

> As we were freshman, we always had these school wide-assemblies where our principal himself stands up in front of the entire school, and usually it's a PowerPoint so he has statistics like this is how much your parents would be spending on the two years of college. Ultimately, that you will be receiving or possibly be receiving if you're up to it, he puts up a number like $20,000. That for your average educator is half of your yearly income after taxes. Both my parents being educators they don't make that much money, so that alone was like wow my parents are going to save this much money. I want to go to UT that's, my number one. UT isn't exactly cheap it's not expensive but it's not cheap, so that alone was incentive for me to do well. To earn my credits to move on so that I could save that money for my parents, and I could go the two years at UT that I'm going to be hopefully attending. So, that really opens one's eyes especially when it's coming from the head of the school.

6. What are any other factors (during school or outside of school) that have promoted college credit course completion (dual credit course completion) during the time that you have attended your campus?

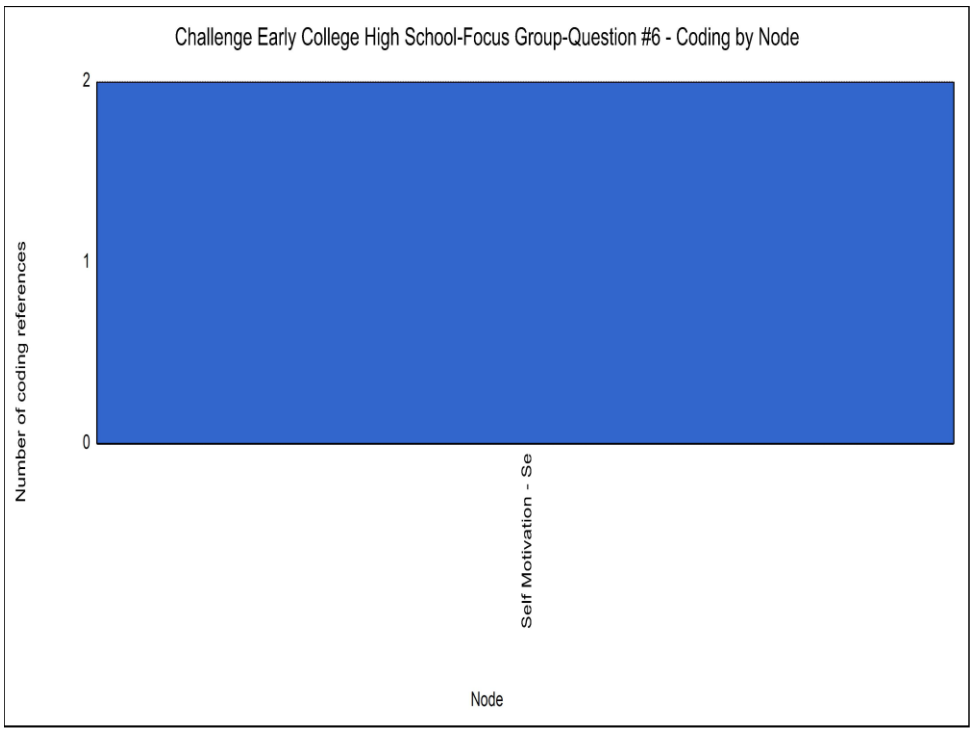

Table 106: Challenge Early College High School-Focus Group-Question #6-Coding by Node

There were two total student responses to question #6. Both of the responses fell into one category; self motivation/self determination/self satisfaction. In both of the responses, the students expressed that, external to school instruction or programming, self motivation was a major influence on their successful completion of college credit coursed while they were enrolled in the early college high school program. An example of one of the student responses was,

> I think one of the key characters you have to have when going into an early college is being self-motivated and self-driven. Because the teachers will be there for you but as you move up in grade level you see them less. Because as of now I know I only take two classes on the high school side and those are mandatory. I've basically graduated from high school

already I'm just working on my college hours. It's a Leadership in Guidance and you only get a grade for one. So, it's on you, and you have to stay on top of your stuff whenever you're a senior because you're that close to getting your associates, you're that close to graduating high school and you can lose that in a heartbeat without motivation.

In this statement, the student specifically mentioned the influence of self motivation on their successful completion college credit classes during their enrollment at the early college high school.

East Early College High School

Question 1: What practices or strategies (ex: special programs, mentoring, counseling, etc.) does your campus utilize that have prevented you from dropping out of high school during the time that you have attended your campus?

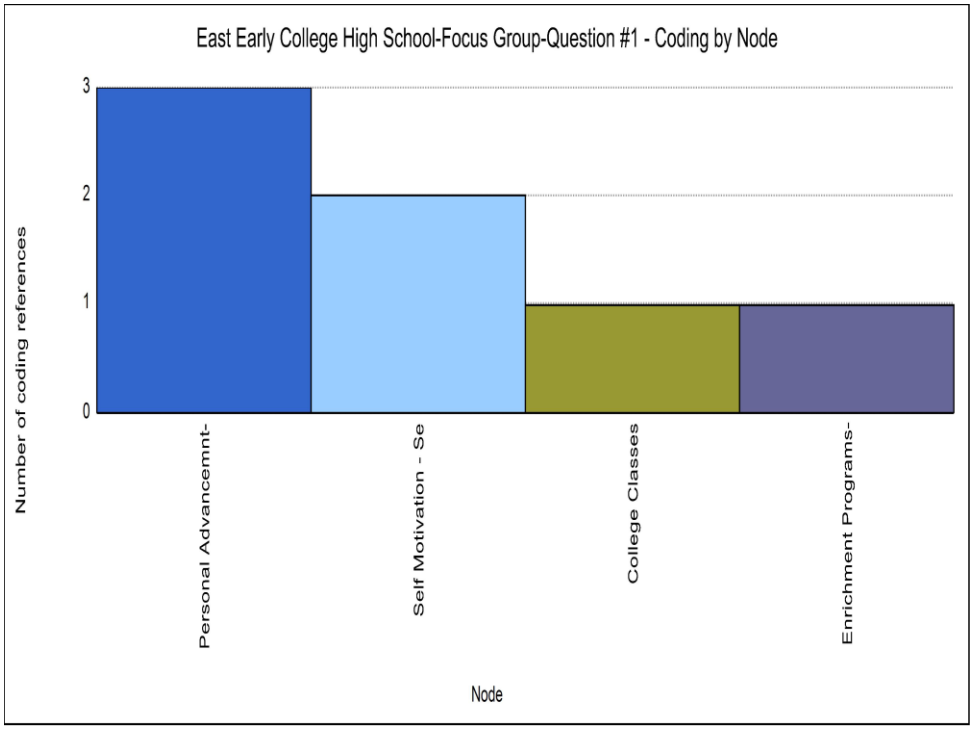

Table 107: East Early College High School-Focus Group-Question #1-Coding by Node

Responses to this question fell into four categories; personal advancement/academic achievement, self motivation/self determination/self satisfaction, college classes, and enrichment programs-classes.

Personal Advancement/Academic Achievement

This category was the most prevalent reference for question #1 (3 out of 7 references). In all of the responses coded for this category, the students mentioned that the opportunity to succeed in an early college environment was a major influence in their retention in the early college high school program. One of the students' responses focused on the ability to complete college classes while in high school as a motivator toward their retention. The other two responses focused on the want to succeed in the early college high school as the prime motivator toward their retention.

Self Motivation/Self Determination/Self Satisfaction

This category was the second most prevalent reference (2 out of 7 references) from East Early College High School student answers to question #1. In these responses, the students expressed that self motivation/self determination/self satisfactions was a major influence on their retention in the early college high school program. An example of a student response to this question was, "I don't think they did much I think it's much more of a personal thing, you come here because you want to succeed and you want to be in school."

College Classes and Enrichment Programs-Classes

The categories of college classes and enrichment programs classes were referenced one time each from the student responses. The response in the college class category referenced the ability to complete college credit classes as a motivating factor towards the student's retention in the early college high school. The student response that referenced enrichment programs expressed the opinion that a program external to the early college high school influenced the student's retention.

Question 2: What are any other factors (during school or outside of school) that have prevented you from dropping out of high school during the time that you have attended your campus?

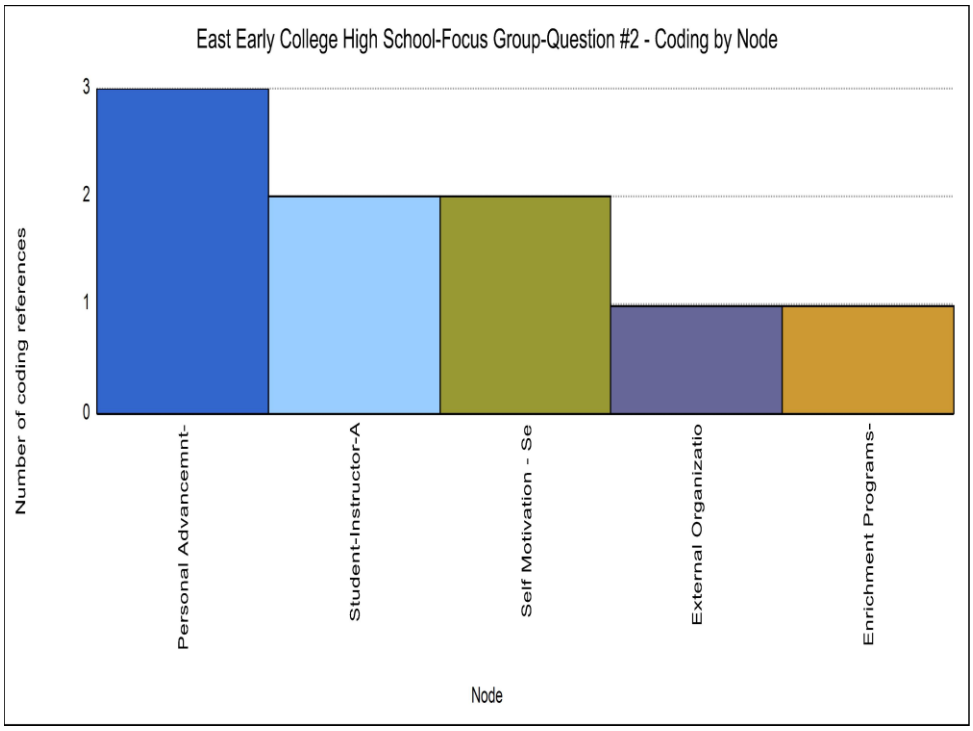

Table 108: East Early College High School-Focus Group-Question #2-Coding by Node

Responses to question #2 fell into five categories; personal

advancement/academic achievement, student/instructor/administrator interaction, self motivation/self determination/self satisfaction, external organizations, and enrichment programs-classes.

Personal Advancement/Academic Achievement

This category was the most prevalent reference for question #1 (3 out of 9 references). In all of the responses coded for this category, the students mentioned that the personal advancement/academic achievement was a major influence in their retention in the early college high school program. In contrast to responses coded to this category in question #1, student responses to the personal advancement/academic achievement category in question #2 focused on how the early college high school program benefits them by possibly advancing them in employment opportunities in the future. An example of a student statement in this category was, "Now that we see how the economy has gone down and the unemployment, I feel as if I go to college I'm going to have a much better opportunity a better chance of me getting somewhere. Like, you've got to take advantage of every opportunity, which is what I'm trying to do that's why I'm here." In this response the student specifically mentions the influence of the ability to attain a higher employment level in the future as a major contributor to their retention.

Student/Instructor/Administrator Interaction

This category was tied with the self motivation/self determination/self satisfaction category as the second most prevalent reference (2 out of 9 references) from East Early College High School focus group student answers to question #2. In these responses, the students mentioned student/instructor/administrator interaction as a major influence on

their retention in the early college high school program. In each of these responses, the students referenced the assistance and dedication from the early college high school teachers as a major influence in their retention. One example of a student response in this category was, “I think a big thing about being here is a lot of the teachers really want to help us it’s not you’re on your own it’s if you need them most teachers here will be there. Anything you need they’re always there to help you rather its before school or after school, or if you want to come in when you have any free time they’re always there and they’re very helpful.”

Self Motivation/Self Determination/Self Satisfaction

This category was tied with the student/instructor/administrator interaction category as the second most prevalent reference (2 out of 9 references) from East Early College High School focus group student answers to question #2. In these responses, the students referenced their own self motivation/self determination/self satisfaction as a major influence on their retention in the early college high school program.

External Organizations and Enrichment Programs-Classes

The categories of external organizations and enrichment programs classes were each referenced once from the student responses. The response coded for both the external organizations and enrichment programs-classes categories specifically referenced a community organization that provided additional resources as a motivating factor towards the student’s retention in the early college high school.

Question 3: What practices does your campus utilize that have promoted high academic achievement on state standardized tests (TAKS test scores) during the time that you have attended your campus?

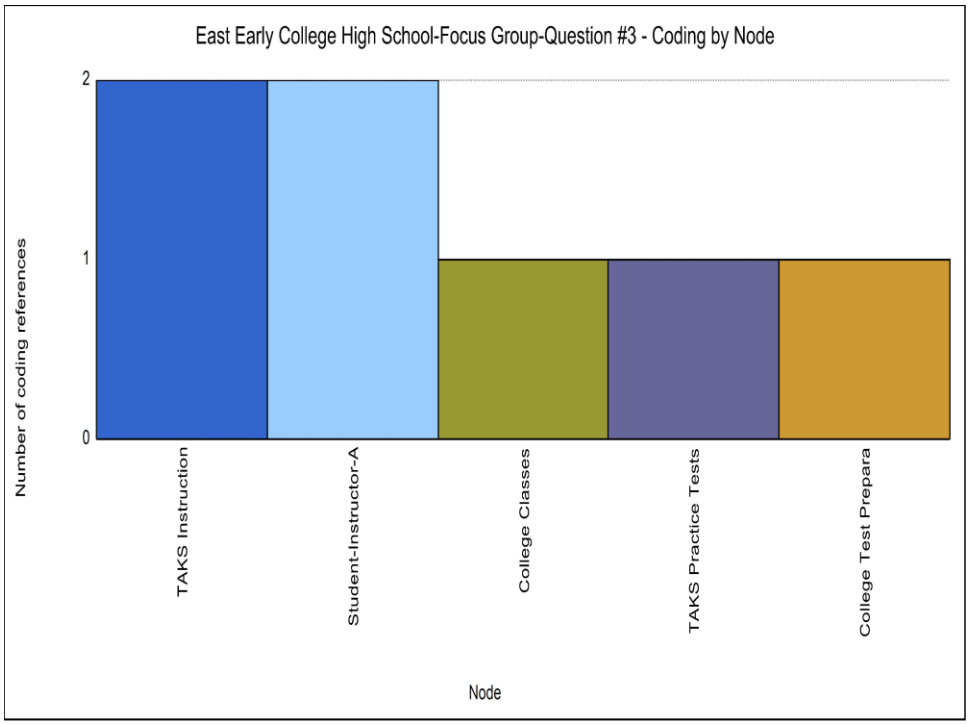

Table 109: East Early College High School-Focus Group-Question #3-Coding by Node

Responses to question #3 were coded into five categories; TAKS instruction, student/instructor/administrator interaction, college classes, TAKS practice tests, and college test preparation-exposure.

TAKS Instruction

This category was tied with the student/instructor/administrator interaction category as the most prevalent reference (2 out of 7references) from the East Early College High School focus group student answers to question #3. In these responses, the students mentioned TAKS instruction as a major influence on their successful

performance on the TAKS test. In both of the responses, the students referenced the TAKS instruction from individual early college high school teachers as a major influence on their successful test scores. One example of a student response in this category was,

> I didn't know of the TAKS before because at Catholic Schools they don't give them out there's just finals. For my freshman year for the TAKS, I was pretty scared because I was so worried that I might not do well. And for the first two years or three years I couldn't pass because I wasn't so good in math or science and by my junior year I actually passed all of it and I felt pretty happy knowing that I can do this. And, one of the teachers Ms. Finch, she helped me a lot, for the past weeks before the TAKS she really expanded my mind in math so I was pretty happy with what she did for me.

Student/Instructor/Administrator Interaction

This category was tied with the TAKS instruction category as the most prevalent reference (2 out of 97references) from the East Early College High School focus group student answers to question #3. In these responses, the students mentioned student/instructor/administrator interaction as a major influence on their successful performance on the TAKS test. Both of the responses referenced interactions with teachers as the most prominent influence on their TAKS test scores.

College Classes, TAKS Practice Tests and College Test Preparation-Exposure

The categories of college classes, TAKS practice tests, and college test preparation-exposure each were referenced once from the East Early College High School student

responses to question #3. The response coded for college classes, referenced how the college classes that they had already taken in the early college high school program was a major influence on the successful performance of the students on the TAKS test. The student response in this category stated,

> Since we were taking college level classes you really couldn't compare that to whatever we were supposed to be learning at our grade level. So, like E said, it was kind of like a review for us. So basically, before taking the TAKS we didn't have to learn everything we had to just, had to review, go back to what we had learned since middle school. I remember I had taken college algebra in IPC classes and I remember seeing like some of those topics or questions related to those topics on my eleventh grade TAKS Test. So I just had to review, and they really helped us out as well because they had Saturday tutorials so that we could all come.

From this response, it was expressed by the student that the information learned in the college credit courses provided sufficient information for the student to perform successfully on the TAKS test.

In the response coded for TAKS practice tests, the student described how TAKS practice tests administered by early college high school teachers were a major influence on the successful performance of the students on the TAKS test. The student's response in this case stated,

> Since freshman year, I forget what was the timing but every once in a while we would take a practice test and it was just like the TAKS Test from the previous year or so, but the thing that really got us was that they

graded us on it so that we could see what we needed help with. That was the teacher's way of finding out if that particular student needed help in reading, or math or science or history so we kept taking this test to help us grow. When I took the math test during my freshman year I didn't do so well and I thought that I was good in math, but my teacher helped me out. She gave me mandatory tutorials that you have to show up for but not disciplinary actions, but they just kept scaring us so that they could help us to improve our scores and to keep improving. So that's one reason.

In the response coded for college test preparation-exposure, the student expressed that exposure to college preparatory tests were a major influence on their successful performance on the TAKS test. The student stated in his response, "I think that another factor is that we've been exposed to all other kinds of tests. For example we took a Compass Tests we took PSAT and they really set the bar up high and they're much harder than the TAKS so whenever we went back to take the TAKS it was like basic stuff that we are expected to know."

Question 4: What are any other factors (during school or outside of school) that have promoted high academic achievement on state standardized tests (TAKS Test Scores) during the time that you have attended your campus?

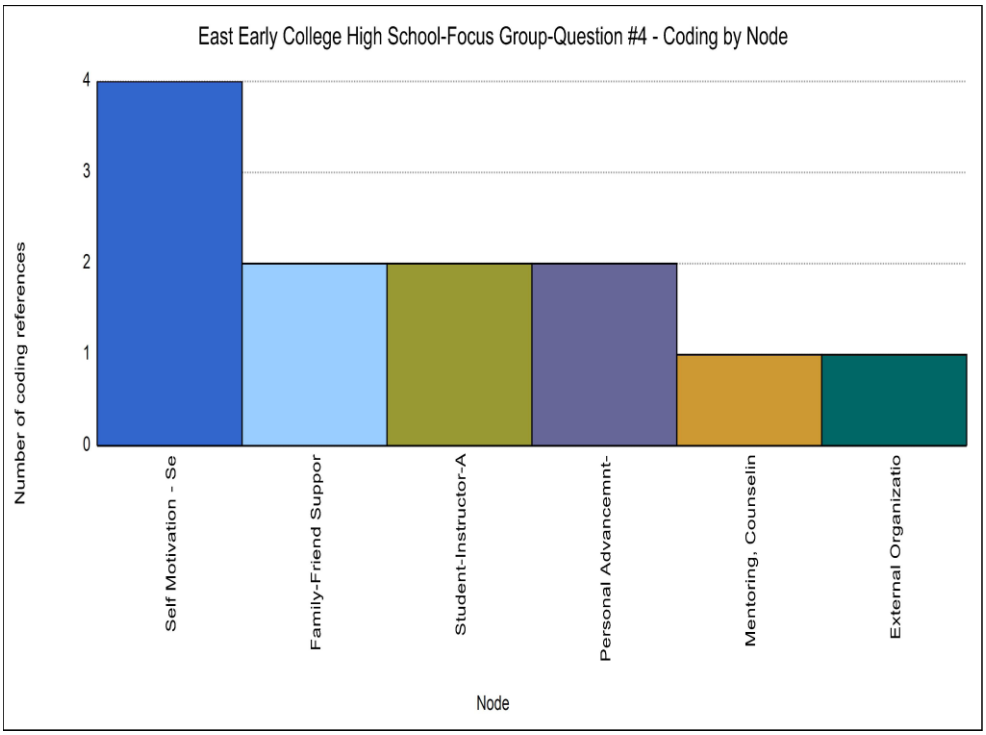

Table 110: East Early College High School-Focus Group-Question #4-Coding by Node

Responses to question #4 were coded into five categories; self motivation/self determination/self satisfaction, family/friend support, student/instructor/administrator interaction, person advancement/academic achievement, mentoring/counseling/tutoring/peer tutoring, and external organizations.

Self Motivation/Self Determination/Self Satisfaction

This category was the most prevalent reference for question #4 (4 out of 12 references). In all of the responses coded for this category, the students mentioned self motivation/self determination/self satisfaction as a major influence, outside of early college high school programming, on their successful performance on the TAKS test. In all of the responses, the student referenced how encouragement from family, friends, and

community members influenced their own intrinsic motivation and determination to perform successfully on the TAKS test.

Family/Friend Support

This category was tied with the student/instructor/administrator interaction and personal advancement/academic achievement categories as the second most prevalent reference (2 out of 12 references) from East Early College High School focus group student answers to question #4. In these responses, the students mentioned that support from family and friends was a major influence on their successful performance on the TAKS test.

Student/Instructor/Administrator Interaction

This category was tied with the family/friend support and personal advancement/academic achievement categories as the second most prevalent reference (2 out of 12 references) from East Early College High School focus group student answers to question #4. In these responses, the students mentioned student/instructor/administrator interaction as a major influence on their successful performance on the TAKS test during their enrollment in the early college high school program. In each of these responses, the students referenced the assistance and dedication from the early college high school teachers as a major influence in their TAKS test performance.

Personal Advancement/Academic Achievement

This category was tied with the family/friend support and student/instructor/administrator categories as the second most prevalent reference (2 out

of 12 references) from East Early College High School focus group student answers to question #4. In these responses, the students mentioned personal advancement/academic achievement as a major influence on their successful performance on the TAKS test. In each of these responses, the students referenced the desire to perform successfully on the TAKS test as a means to be able to advance academically, or to a higher state of employment in the future.

Mentoring/Counseling/Tutoring/Peer Tutoring

This category was referenced in 1 out of 12 student responses for question #4. The response in the category implied that the counseling by a community member was a key influence on the student's successful performance on the TAKS test.

External Organizations

This category was also referenced in 1 out of 12 student responses for question #4. The response in this category implied that the participation in an organization external to the early college program was a key influence on the student's successful performance on the TAKS test.

5. What practices does your campus utilize that have promoted college credit course completion (dual credit course completion) during the time that you have attended your campus?

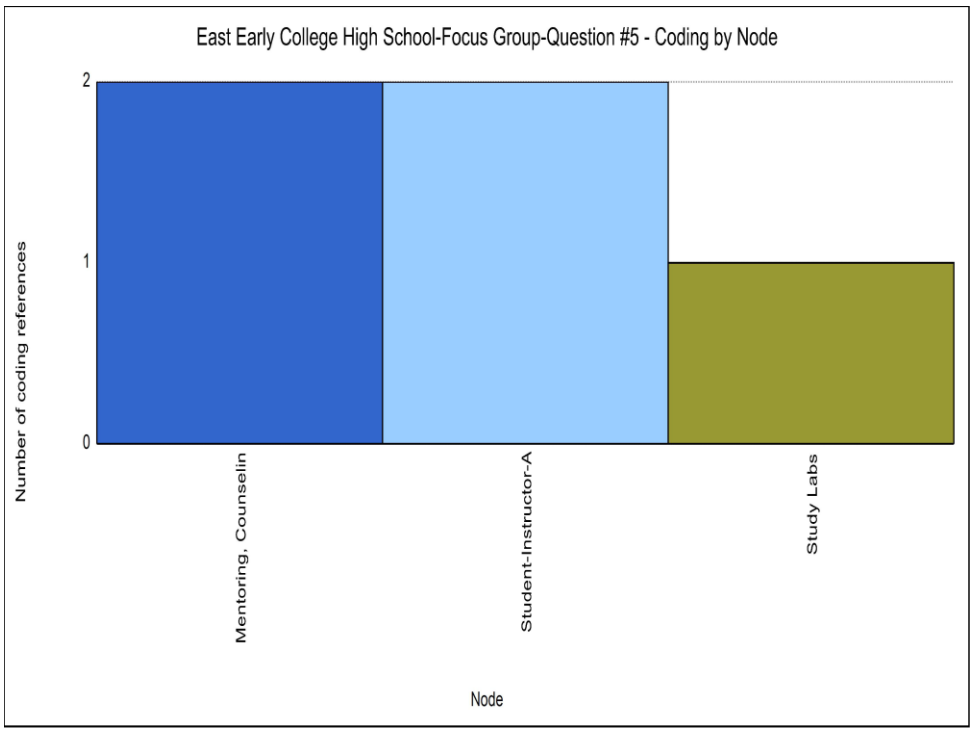

Table 111: East Early College High School-Focus Group-Question #5-Coding by Node

Responses to question #5 fell into three categories; mentoring/counseling/tutoring/peer tutoring, student/instructor/administrator interaction, and study labs.

Mentoring/Counseling/Tutoring/Peer Tutoring

This category was tied with the student/instructor/administrator interaction category as the most prevalent reference (2 out of 5 references) from the East Early College High School focus group student answers to question #5. In these responses, the students mentioned tutoring from teachers and peers as a major influence on their college credit course completion. One example of a student response in this category was, “We also have study groups inside the high school like with a teacher, and also outside of

school we sometimes go to HCC or any place that we can go to so we can study together and help each other out. As HCC students, we all have the same class because we're going through the same thing so we want to help each other out."

Student/Instructor/Administrator Interaction

This category was tied with the mentoring/counseling/tutoring/peer tutoring category as the most prevalent reference (2 out of 5 references) from the East Early College High School focus group student answers to question #5. In these responses, the students mentioned assistance from teachers at the early college high school as a major influence on their college credit course completion. One example of a student response in this category was,

> As it was mentioned before whenever we have a problem at the college we can always come to the high school, and we have teachers that will help us in anything that we need so I think that's a great support that we have. For example, math classes I was taking at the college, if I don't understand something I can always come to my math teacher here at high school and she will help me with anything I need.

Study Labs

This category was also referenced in 1 out of 5 student responses for question #5. In this response the student expressed that the availability of study groups at the early college high school or the partnering community college were a key influence on the student's successful performance on the TAKS test.

6. What are any other factors (during school or outside of school) that have promoted college credit course completion (dual credit course completion) during the time that you have attended your campus?

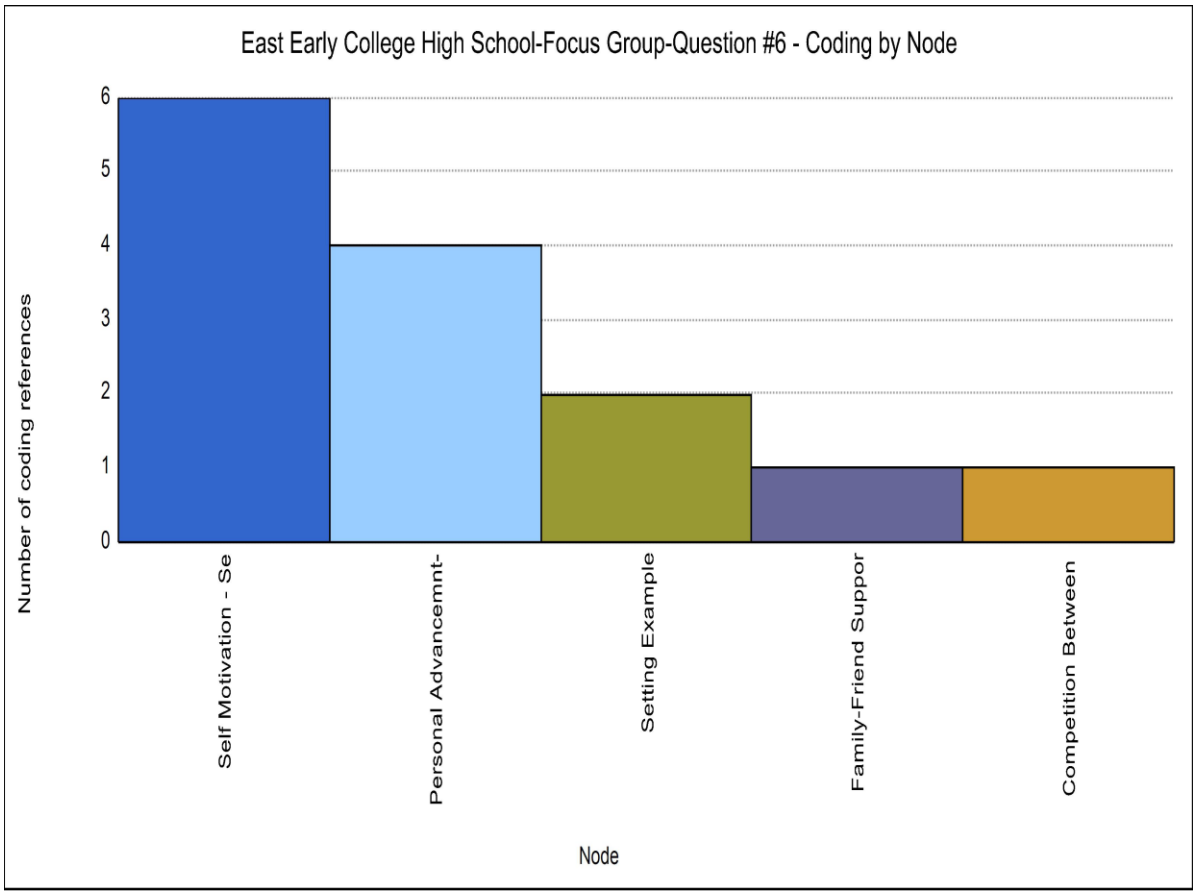

Table 112: East Early College High School-Focus Group-Question #6-Coding by Node

Responses to question #6 were coded into five categories; self motivation/self determination/self satisfaction, personal advancement/academic achievement, setting example, family/friend support, and competition between students.

Self Motivation/Self Determination/Self Satisfaction

This category was the most prevalent reference for question #4 (6 out of 14 references). In all of the responses coded for this category, the students mentioned self motivation/self determination/self satisfaction as a major influence, outside of early college high school programming, on their successful completion of college credit courses. In three of the responses, the student referenced that their motivation to successfully complete college credit courses stemmed from their desire to have a better job in the future. The remaining two student responses referenced the desire to get better grades than their fellow student and setting an example for younger siblings as factor that motivated them to successfully complete college courses.

Personal Advancement/Academic Achievement

This category was the second most prevalent reference (4 out of 14 references) from East Early College High School student answers to question #6. In these responses, the students expressed that the prospect of future personal advancement and increased academic knowledge was a major influence on their successful completion of college credit courses.

Setting Example

This category was the third most prevalent reference (2 out of 14 references) from East Early College High School student answers to question #6. In these responses, the students expressed that setting an example for their family members was a major influence on their successful completion of college credit courses. An example of a student response to this question was, "I think for most of us that are here it's about setting an example for your brothers and sisters. If basically you can do it then they're

like “oh then I can do it too” because like my brother I know he won’t admit it but he see everything that I do and he tries to do it too. So I’m always thinking about being a good example and that really makes me want to do good.”

Family Friend Support

This category was also referenced in 1 out of 14 student responses for question #6. In this response the student expressed the support from family members was a key influence on the student’s successful completion of college credit courses.

Competition between Students

This category was also referenced in 1 out of 14 student responses for question #6. In this response the student expressed that competition between early college high school students was a key influence on the student’s successful completion of college credit courses. The student response for this category was, “I think that competition among ourselves is something else, too. Like, for example, I see someone get a good grade on a test and I study hard and I try my best to match up to try to get a better grade. And I mean we’re all friends since it’s a small school we all know everybody but some of us are very competitive.”

Campus Generated Documents

Campus generated documents were supplied by Challenge and East Early College High Schools. The documents included school profiles, school culture and academics information, a student handbook, Academic Support and Intervention System Teaming (ASSIST) meeting guidelines, supports in place at EECHS, tutorial schedule, and course sequence documents.

School Profiles

The Challenge and East Early College High Schools provided school profiles as campus generated documents. The school profile documents gave a brief overview of the school. The East Early College High School profile contained the following information: school facts, type of school benefits to students, admissions information, enrollment information, grade distribution for class of 2010, student demographics, school faculty and administration demographics, attendance rate, percentage of students receiving free or reduced lunch, percentage of students taking honors courses, and percentage of students taking dual-credit courses. The Challenge Early College High School profile contained school facts, a description of the middle/early college concept, school personnel information, graduation requirements, a description of the school's marking (grading) system, college entrance exam statistics, school National Merit Scholarship Program finalist and semifinalist numbers, extracurricular activities, faculty demographics, college bound student statistics, and universities accepting Challenge Early College students in 2009/2010.

School Culture and Academics

This document was provided by East Early College High School, and contained information on the school philosophy, school motto, extracurricular activities, graduation requirements, and administrative team information.

Student Handbook

A student handbook was provided by Challenge Early College High School. The handbook contained information on Houston Independent School District Board of Education, Houston Community College System Board of Trustees, and Challenge Early College High School contact information, mission and school structure. Following this introductory information, the handbook then described the academic policies and procedures (including proactive student support), student responsibilities, conduct and privileges, and campus life.

Of particular interest to this research study was the proactive student support that was described in the academic policies and procedures section of the handbook. Proactive student support at Challenge Early College consists of three tiers of interventions to address the academic, social and emotional progress of the student. The program is designed to monitor and support the students from initial enrollment in the early college high school through graduation.

There are two Tier 1 interventions; horizontal teams and guidance. A horizontal team intervention consists of two horizontal teams of academic faculty meeting to discuss and monitor the academic progress of the students. From these meetings, students who need additional support are identified and provided appropriate interventions through Academic Student Support and Intervention System Teaming (ASSIST). A guidance intervention consists of assigning students who are enrolled in one or more college classes to a teacher supervised guidance class. The class is designed to assist the student in the navigation of the Houston Community College system and higher education

academic requirements. The guidance teacher also assists the students as they apply to universities and seek scholarships and grants.

Tier 2 interventions consist of the Academic Student Support and Intervention System Teaming (ASSIST). In this intervention, students who are identified as having a need for academic support are taken through a process of meetings to address the problems the student is having in classes. The meeting attendees consist of the student, parent, academic Dean, and possibly a social worker. Interventions are then recommended by the ASSIST team to rectify the academic challenges the student is facing. The ASSIST team monitors the student's academic progress during the school year. At the end of the spring semester, if the ASSIST team finds that the student is not meeting the academic or attendance expectations of the early college high school, the team may recommend that the student's transfer be revoked.

Tier 3 interventions consist of an Intervention Assistance Team (IAT). The IAT may consist of an administrator, teacher and social worker. If it is determined that the student needs are beyond the ASSIST process, the student may be referred for further cognitive testing and assessment. Depending on the results of the testing, the student may be recommended for special education or Section504 services.

Academic Student Support and Intervention System Teaming (ASSIST) Meeting Guidelines

Challenge Early College High School provided a document that detailed the ASSIST meeting guidelines. This document presented a step by step guide to conduct ASSIST meetings and processes.

Supports in Place at EECHS

An administrator at East Early College High School created a document that described student support programs that are in place on the campus. The document covered TAKS classes, writing support classes, embedded SAT math classes, and tutorials. The document specifically addressed how students are selected for the classes or tutorial sessions and whether the classes or tutorial sessions were mandatory or optional to the student.

According to the document, students are selected for TAKS prep classes and practice writing classes based on benchmark test scores, prior TAKS test performance, and writing samples. If a student does not perform well on college readiness exams, the student is placed in a technical writing and reading applications and a study skills class prior to enrolling in a college credit course. Students are selected to take an embedded math SAT course based on the student's scores on previously taken SAT and PSAT exams. Tutorial sessions were open to all students, but were mandatory for students who had failed one or more classes.

Tutorial Schedule

East Early College High School provided a tutorial schedule for the campus. The tutorial schedule displays the time and place of the tutorial sessions, the academic subjects in which tutoring is provided, and the teachers that will be present in the tutorial sessions.

Course Sequence Documents

Both Challenge and East Early College High Schools provided course sequence documents. The documents included College Readiness (grade 9), Compass Scores: What do they mean?, and graduation requirements.

The document titled College Readiness, Grade 09, detailed the process of placing East Early College High School students in appropriate courses during their ninth grade year. According to the document, students who do not perform at the expected level on college placement exam are placed in a remedial reading or writing course, and required to pass the course with a grade of A or B. Once this requirement has been met, the student can then proceed to take college credit level courses. It is also stated on the document that students must maintain a grade point average to continue taking the college level courses during their ninth grade year.

The document titled Compass Scores: What do they mean?, describes the course placement process for students at Challenge Early College High School. This document was similar to the College Readiness document provided by East Early College High School, but is more detailed regarding student Compass test scores and Houston Community College course placement. The document presented ranges of Compass test writing, mathematics, and reading scores coinciding with the appropriate level of Houston Community College course in which the student is allowed to enroll.

Both East and Challenge Early College High Schools provided graduation requirement information as a form of campus generated documents. The documents

detailed the number of credits in academic and elective areas that must be successfully completed for the student to graduate from high school. Included with the high school graduation plan, was a Houston Community College academic plan for a students to earn Associate of Arts and Associate of Science degrees.

Chapter 5

This chapter contains a summary of the research, a discussion of the results and the conclusion and implications of the study. The purpose of this study was to determine which early college high school practices are effective with regards to retention, academic achievement on state assessments, college course completion rates for students in selected Texas early college high school programs. Both quantitative and qualitative data were analyzed in this study. The quantitative data that were analyzed for the study included a comparison of retention and college course completion rates, and a statistical analysis of Texas Assessment of Knowledge and Skills test scores comparing early college and traditional high school students in selected Texas early college high schools. The qualitative data analyzed in this study included student responses to an online questionnaire and two focus group sessions. In this chapter I will summarize the research results, discuss the significance of the findings, and also briefly suggest how the results may be applied in practice.

Research Summary

Quantitative Data Analysis Research Summary

Student Demographics

Student demographic information for selected early college and traditional high schools in the Dallas, Houston, and Laredo Independent school districts were obtained from Texas Education Agency Academic Excellence Indicator System reports. 2007-2008, 2008-2009, and 2009-2010 early college high school student demographic information was compared to the selected traditional high schools in their respective

districts. In this study, it was determined that, overall, the early college high schools had some of the highest percentages of minority and economically disadvantaged student populations when compared to the selected traditional high schools in their districts.

Retention and College Credit Course Completion Rates

Retention and college course completion rates for selected early college and traditional high schools in the Dallas, Houston, and Laredo Independent school districts were obtained from Texas Education Agency Academic Excellence Indicator System reports. 2007-2008 and 2008-2009 annual drop-out rates were used to determine student retention rates, and 2007-2008 and 2008-2009 advanced level/dual enrollment completion rates were used to determine college course completion rates for the early college and traditional high schools in each district. The early college high school rates were compared to the selected traditional high schools in their respective districts. In this study, it was determined that, overall, the early college high schools had some of the highest student retention and college course completion rates when compared to the selected traditional high schools in their districts.

Discussion

From the data used in this study, early college high schools in the Laredo and Houston Independent School districts had either the highest or tied with the highest, retention and college course completion rates when compared with the selected traditional high schools. For these school districts, the annual drop-out rates ranged between 0.0% and 0.3% for the two year period.

The advanced level/dual enrollment completion rate for the early college early college high schools in the Dallas Independent School District jumped from 52.2% in the 2007-2008 school year, to 90.5% in the 2008-2009 school year. These rates were the highest advanced level/dual enrollment rates in the Dallas Independent School District for both years. The Laredo Independent School District early college high school held the highest advanced level/dual enrollment rates when compared to the traditional schools in the district.

The Houston Independent School District's early college high school were reported to have the third and fourth highest advanced level/dual enrollment rates for the 2007-2008 academic year, and the first and fifth highest advanced level/dual enrollment rates for the 2008-2009 academic year when compared to the selected traditional high schools in the district. After further research, it was determined that the traditional high schools that outperformed the early college high schools' advanced level/dual enrollment rates in the Houston Independent School District were considered magnet or charter schools by the district.

Academic Achievement on State Assessments

Spring 2008, 2009, and 2010 ninth, tenth, and eleventh grade Texas Assessment of Knowledge and Skills test scores obtained from Texas Education Agency Academic Excellence Indicator System reports were analyzed to determine if there was as statistically significant difference between the test scores of early college and traditional high school students in the Dallas, Houston, and Laredo Independent School Districts. In each analysis, the early college high school was compared to the selected traditional high schools in its district.

After performing the analyses, it was determined that the mean difference of Texas Assessment of Knowledge and Skills test scores for early college high schools in the Dallas and Laredo Independent School Districts were significantly higher that the selected traditional high schools for all grade levels and tests over the three year period. In the Houston Independent School District, all of the early college high school Texas Assessment of Knowledge and Skills test scores for all grade levels and tests were significantly higher than the traditional high schools in the district, except for the spring 2008 eleventh grade social studies scores. Although the mean score for the early college high school on this particular test was higher that the selected traditional high schools' mean score, it was determined that the mean difference was not statistically significant.

Discussion

There was a noticed trend in the mean difference data that suggests there is an academic achievement level difference between ninth grade early college high and selected traditional high school students. Analysis of the mean difference of ninth grade math and reading/ELA test scores showed a higher mean difference for ninth grade early college and selected traditional high school students in each district. This mean difference had a tendency to decrease as the students progressed to the tenth and eleventh grade tests.

Qualitative Data Analysis Research Summary

In this study, qualitative data were collected from online questionnaires and two focus group sessions. The research design required that the same questions asked on the online questionnaire were given to the participants of the focus groups. Question #1 and

#2 asked the students to give their opinion of which practices and influences, both in school and out of school, promoted their retention in the early college high school program. Question #3 and #4 asked students to give their opinion on which practices and influences, both in school and outside of school, promoted high academic achievement on state assessments. Question #5 and #6 asked students to give their opinion on which practices and influences, both in school and outside of school, promoted successful completion of college credit courses. The data from the online questionnaire and the focus groups sessions were combined to determine the trends that emerged from the student responses.

Retention

Question #1 specifically asked the student to give their opinion on which specific practices utilized by the early college high school influenced their retention in the program. From the responses it was determined that the students felt that mentoring/counseling/tutoring/peer tutoring programs and student/teacher/administrator interaction at the early college high school had the greatest influence on their retention.

Question #2 asked the students for their opinion of other influences, during or outside of school, which influenced their retention in the early college high school program. Analysis of the student responses from both sources of data revealed that family/friend support, self motivation/self determination/self satisfaction, and student/instructor administrator interaction were viewed as being the most influential factors, outside of formal school practices, that influenced their retention.

Discussion

The most prevalent response (10 references) from students regarding practices that influenced their retention in the early college high school program identified mentoring/counseling/tutoring/peer tutoring as the most influential factor. While online questionnaire responses focused on personal advancement/academic achievement as a motivating factor in their retention, the focus group session responses overwhelmingly focused on mentoring/counseling/tutoring/peer tutoring as the most influential factor in their retention.

The second most prevalent response to question #1 (8 references) from students regarding early college high school practices that influenced their retention focused on student/teacher/administrator interactions. It was the opinion of the students that these interactions had a great influence on their retention in the early college high school program. Once again, this was not the results of the student responses to the online questionnaire; however this trend was clearly present in the focus group responses.

Unlike the trends that emerged from question #1, trends for question #2 emerged from the combination of all both the online questionnaire and focus group data and were not concentrated in just one source. The most prevalent response (8 references) to question #2 focused on family/friend support as the most influential factor, outside of formal school practices, that promoted their retention. The second most prevalent response (7 references) was self motivation/self determination/self satisfaction, and the third most prevalent response (5 references) was student/instructor/administrator interaction.

Academic Achievement on State Assessments

Question #3 asked the student to give their opinion on which specific practices utilized by the early college high school that influenced their academic assessment on state assessments; specifically the Texas Assessment of Knowledge and Skills test. The student responses indicated that TAKS instruction, TAKS practice tests, and student/instructor/administrator interaction were the most influential factors that promoted high academic achievement on state assessments.

Question #4 asked the students for their opinion of other influences, during or outside of school, that influenced their academic achievement on state assessments: specifically the Texas Assessment of Knowledge and Skills test. Analysis of the student responses, from both sources of data, revealed that self motivation/self determination/self satisfaction was clearly the influential factor that promoted high achievement on state assessments.

Discussion

Student responses from the combined online questionnaire and focus group session data addressing the specific formal school practices that influenced their academic achievement on state assessments indicated that TAKS instruction and TAKS practice tests were equally (6 references each) the most important practices implemented by the early college high schools. Student/instructor/administrator interaction received four references from the student responses and rated as the second most influential factor on high academic achievement on state assessments.

Student responses from the combined online questionnaire and focus group session data addressing other influences, in school or outside of school, that influenced

their high academic achievement on state assessments overwhelmingly indicated that self motivation/self determination/self satisfaction was the most influential factor on their success.

College Credit Course Completion

Question #5 asked the student to give their opinion on which specific practices utilized by the early college high school that influenced their successful completion of college credit courses. The student responses indicated that mentoring/counseling/tutoring/peer tutoring, college class exposure, personal advancement/academic achievement, and financial incentive were the most influential factors that promoted their successful completion of college credit courses.

Question #6 asked the students for their opinion of other influences, during or outside of school, that influenced their successful completion of college credit courses. Analysis of the student responses, from both sources of data, revealed that self motivation/self determination/self satisfaction, family/friend support, and personal advancement/academic achievement were the most influential factors that promoted successful completion of college credit courses.

Discussion

The most prevalent response (6 references) from students regarding specific practices utilized by the early college high school that influenced their successful college credit course completion was coded to the category of mentoring/counseling/tutoring/peer tutoring. Below this category, student responses indicated that college class exposure, personal advancement/academic achievement, and

financial incentive were equally (4 references each) important in influencing the successful college credit course completion. To a lesser degree (3 references), student responses indicated that self motivation/self determination/self satisfaction was referenced as another factor that was influential in the successful completion of college credit courses.

The most prevalent response (10 references) from students regarding other influences, in school or outside of school, which promoted their successful college credit course completion in the early college high school program was the self motivation/self determination/self satisfaction category. This trend emerged from the compilation of both the online questionnaire and focus group session data. The second most prevalent response (6 references) from students regarding early college high school practices that influenced their successful college course completion focused on family/friend support. The third most prevalent response (5 references) from students regarding early college high school practices that influenced their successful college course completion focused on personal advancement academic achievement. These three categories had the most frequent references out of the nine categories that were referenced from the combined online questionnaire and focus group session data.

Selection Bias

It is important to acknowledge that though the retention, academic achievement on state assessments, college course completion, online survey, and focus group findings were useful in addressing the research questions, the finding have limitations, given the potential for bias in that the early college high school students may not have been representative of the general district high school population.

Conclusions

Based on the this study's purpose and research questions, the review of literature, and the research and discussion previously presented, the following 5 conclusions can be stated.

Conclusion #1

The selected Texas early college high schools in this study target and enroll students who have traditionally been underrepresented in higher education and have significantly higher academic ability levels when compared to the traditional high schools in their districts.

Conclusion #2

The students from the selected Texas early college high schools have higher retention rates, higher academic achievement rates on state assessments, and higher college credit course completion rates when compared to the traditional high schools in their districts.

Conclusion #3

The students in the selected Texas early college high schools researched in this study stated that mentoring/counseling/tutoring/peer tutoring programs and student/teacher/administrator interactions were the practices the early college high school utilized that contributed to their retention in the program.

Conclusion #4

The students in the selected Texas early college high schools researched in this study stated that TAKS instruction, TAKS practice tests, and student/instructor/administrator interaction were the most influential factors that that contributed to their high academic achievement on state assessments.

Conclusion #5

The students in the selected Texas early college high schools researched in this study stated that mentoring/counseling/tutoring/peer tutoring, college class exposure, personal advancement/academic achievement, and financial incentive were the most influential factors that that contributed to their successful completion of college credit courses.

Implications for Future Research

The implications for future research are based on the design of the study, the results and the conclusions previously stated. The following are implications for future research that arose from this study's findings.

1. Since this study focused on specific early college high schools and districts in the state of Texas, no attempt was made to identify practices utilized to promote retention, academic achievement on state assessments, and college credit course completion at other early college high schools in the state. There is a need for additional research to be conducted at the remaining early college high schools to determine if the findings from this study would be upheld in the other schools and districts.

2. The academic achievement on state assessment data that was obtained and analyzed in this study revealed that, on certain tests, the achievement gap between early college and traditional high school students tends to decrease from the ninth through the eleventh grade years. When the mean difference is analyzed comparing early college high and traditional high school students on reading/ELA, math, science, and social studies Texas Assessment of Knowledge and Skills test scores a pattern of decreasing mean differences is observed. There is a need for additional research to analyze the factors that contribute to this trend.

Appendix A

Research Study School and Districts

Research Study Schools and Districts		
Dallas ISD	**Houston ISD**	**Laredo ISD**
A Maceo Smith High School	Austin High School	Dr Leo Cigarroa High School
Booker T Washington High School	Barbara Jordan High School	Laredo Early College High School*
Bryan Adams High School	Bellaire High School	Martin High School
David W. Carter High School	Carnie Vanguard High School	Nixon High School
Early College High School at Mountain View College	Challenge Early College High School*	
Emmett Conrad High School	Chavez High School	
H Grady Spruce High School	Contemporary Learning Center High School	
Hillcrest High School	Davis High School	
James Madison High School	East Early College High School*	
Justin F Kimball High School	Empowerment College Prep High School	
L G Pinkston High School	Furr High School	
Lincoln High School	Jones High School	
Moises Molina High school	Kashmere High School	
North Dallas High School	Lamar High School	
Roosevelt High School	Law Enforcement-Criminal Justice High School	
Seagoville High School	Liberty High School	
Skyline High School	Madison High School	
South Oak Cliff High School	Milby High School	
Sunset High School	Performing and Visual Arts High School	

Thomas Jefferson High School	Reagan High School	
W H Adamson High School	Sam Houston High School	
W T White High School	Scarborough High School	
W W Samuel High School	Sharpstown High School	
Woodrow Wilson High School	Sterling High School	
	Waltrip High School	
	Washington B T High School	
	Westbury High School	
	Westside High School	
	Wheatley High School	
	Worthing High School	
	Yates High School	

Appendix B

Research Study Assent/Consent Documents

IRB APPROVED ON: 04/01/2010 EXPIRES ON: 03/31/2011
IRB Protocol #2010-01-0021

Parent Permission for Child Participation and Child Assent Form

Researcher: Andrew Lofters, M.Ed.
Contact Information
Email: lofters3007@sbcglobal.net
Phone: 512-653-7874
Faculty Sponsor: Dr. Walter Bumphus

Practices Utilized in Selected Texas Early College High Schools to Promote Academic Success: A Student Viewpoint

You are being asked to allow your child to participate in a research study. This form provides you with information about the study. The person in charge of this research will also describe this study to you and answer all of your questions. Please read the information below and ask any questions you might have before deciding whether or not to take part. Your participation is entirely voluntary. You can refuse to participate without penalty or loss of benefits to which you are otherwise entitled. You can stop your participation at any time and your refusal will not impact current for future relationships with UT Austin, school district, or school. To do so simply tell the researcher you wish to stop participation. The researcher will provide you with a copy of this consent for your records.

The purpose of this study is to **determine practices utilized by selected Texas early college high schools to promote academic success.**

If you agree to be in this study, we will ask your child to do the following things:

- Students will be asked to access and answer a questionnaire on the Zoomerang survey management website. The students will be given a URL address to the Zoomerang website and instructions on how to login to the specific research study survey. Participants will be provided able to complete the survey at any place and time that is convenient for them (within the research study data collection timeframe). Participation in the survey is completely voluntary and the participant may decide to decline participation at any moment in the research study process (even if they have already started answering the research questionnaire).

Or

- Students will be asked to participate in an audio recorded focus group session that will be conducted after school hours on the selected early college high school campus. The focus group participants will consist of 5 randomly selected twelfth grade students. The group will be asked the same questions that were given to the participants in the questionnaire portion of the study. Also, the focus groups will be asked to clarify questions from the researcher that emerge from the analysis of the questionnaire data.

Total estimated time to participate in the study is 30 minutes

Risks of being in the study:

There are minimal risks associated with this study. No greater than what participants are likely to encounter in everyday life. The only possible risk involves the confidentiality of the participants in the focus group data collection process. Practices will be implemented to assure confidentiality of the participants and minimize the risk involved.

Benefits of being in the study:

Students will be able to give their opinions on the strategies or practices that their early college high school utilized to ensure their retention, academic achievement on state assessments, and college course completion.

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IRB Protocol #2010-01-0021

Compensation:

- **No compensation will be given in this study.**

Confidentiality and Privacy Protections:

- Students selected to participate in the online questionnaire or focus group portion of the study will be identified by name and student number to the researcher and school administration.
- Once the research study information and consent documents have been distributed to the selected students, the students will be asked to return the consent forms to the researcher in the pre-addressed, stamped envelope. This process will ensure that the school administration will have no knowledge of which students consented to, or refused, participation in the study.
- Data from the student survey results will be sent directly to the researcher. The student survey results will only be accessible to the primary researcher. Questionnaire responses submitted to the Zoomerang survey website will be deleted after they are downloaded and entered into the Nvivo data analysis program.
- Although the student participants in the focus group will be selected by student number, responses taken from the participants during the session will not be notated with a student number. At no time will the participant's student number be associated with the responses given in the focus group session. This procedure will ensure that responses given in the focus group session could not be traced back to a student number or student name.
- Access to the original survey results, audio recordings and other written data (transcriptions of audio recordings, and transcription codings) will be limited to the researcher. Any of the written and recorded data (audio recordings, transcriptions of audio recordings, and transcription codings) will be stored in a locked file cabinet in the researcher's office, and will be destroyed upon the completion and publication of the dissertation study.
- The data resulting from your participation may be made available to other researchers in the future for research purposes not detailed within this consent form. In these cases, the data will contain no identifying information that could associate you with it, or with your participation in any study.

The **records** of this study will be stored securely and kept confidential. Authorized persons from The University of Texas at Austin, members of the Institutional Review Board, and have the legal right to review your child's research records and will protect the **confidentiality** of those records to the extent permitted by law. All publications will exclude any information that will make it possible to identify you as a subject. Throughout the study, the researchers will notify you of new information that may become available and that might affect your decision to remain in the study.

Contacts and Questions:
If you have any questions about the study please ask now. If you have questions later, want additional information, or wish to withdraw your participation call the researchers conducting the study. Their names, phone numbers, and e-mail addresses are at the top of this page.

If you would like to obtain information about the research study, have questions, concerns, complaints or wish to discuss problems about a research study with someone unaffiliated with the study, please contact the IRB Office at (512) 471-8871 or Jody Jensen, Ph.D., Chair, The University of Texas at Austin Institutional Review Board for the Protection of Human Subjects at (512) 232-2685. Anonymity, if desired, will be protected to the extent possible. As an alternative method of contact, an email may be sent to orsc@uts.cc.utexas.edu or a letter sent to IRB Administrator, P.O. Box 7426, Mail Code A 3200, Austin, TX 78713.

You will be given a copy of this information to keep for your records.

IRB APPROVED ON: 04/01/2010 EXPIRES ON: 03/31/2011
IRB Protocol #2010-01-0021

You are making a decision about allowing your (son/daughter/child/infant/adolescent youth) to participate in this study. Your signature below indicates that you have read the information provided above and have decided to allow him or her to participate in the study. If you later decide that you wish to withdraw your permission for your (son/daughter/child/infant/adolescent youth) to participate in the study, simply tell me. You may discontinue his or her participation at any time.

_____
Printed Name of (son/daughter/child/infant/adolescent youth)

_____ _____
Signature of Parent(s) or Legal Guardian Date

_____ _____
Signature of Investigator Date

IRB APPROVED ON: 04/01/2010 EXPIRES ON: 03/31/2011
IRB Protocol #2010-01-0021

Adult Permission for Participation Form
Researcher: Andrew Lofters, M.Ed.
Contact Information
Email: lofters3007@sbcglobal.net
Phone: 512-653-7874
Faculty Sponsor: Dr. Walter Bumphus

Practices Utilized in Selected Texas Early College High Schools to Promote Academic Success: A Student Viewpoint

You are being asked to participate in a research study. This form provides you with information about the study. The person in charge of this research will also describe this study to you and answer all of your questions. Please read the information below and ask any questions you might have before deciding whether or not to take part. Your participation is entirely voluntary. You can refuse to participate without penalty or loss of benefits to which you are otherwise entitled. You can stop your participation at any time and your refusal will not impact current for future relationships with UT Austin, school district, or school. To do so simply tell the researcher you wish to stop participation. The researcher will provide you with a copy of this consent for your records.

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Or

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Total estimated time to participate in the study is 30 minutes

Risks of being in the study:
There are minimal risks associated with this study. No greater than what participants are likely to encounter in everyday life. The only possible risk involves the confidentiality of the participants in the focus group data collection process. Practices will be implemented to assure confidentiality of the participants and minimize the risk involved.

Benefits of being in the study:
You will be able to give their opinions on the strategies or practices that their early college high school utilized to ensure their retention, academic achievement on state assessments, and college course completion.

Compensation:

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- The data resulting from your participation may be made available to other researchers in the future for research purposes not detailed within this consent form. In these cases, the data will contain no identifying information that could associate you with it, or with your participation in any study.

The **records** of this study will be stored securely and kept confidential. Authorized persons from The University of Texas at Austin, members of the Institutional Review Board, and have the legal right to review your research records and will protect the **confidentiality** of those records to the extent permitted by law. All publications will exclude any information that will make it possible to identify you as a subject. Throughout the study, the researchers will notify you of new information that may become available and that might affect your decision to remain in the study.

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If you have any questions about the study please ask now. If you have questions later, want additional information, or wish to withdraw your participation call the researchers conducting the study. Their names, phone numbers, and e-mail addresses are at the top of this page.

If you would like to obtain information about the research study, have questions, concerns, complaints or wish to discuss problems about a research study with someone unaffiliated with the study, please contact the IRB Office at (512) 471-8871 or Jody Jensen, Ph.D., Chair, The University of Texas at Austin Institutional Review Board for the Protection of Human Subjects at (512) 232-2685. Anonymity, if desired, will be protected to the extent possible. As an alternative method of contact, an email may be sent to orsc@uts.cc.utexas.edu or a letter sent to IRB Administrator, P.O. Box 7426, Mail Code A 3200, Austin, TX 78713.

You will be given a copy of this information to keep for your records.

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_____ _____
Printed Name Date

_____ _____
Signature of Investigator Date

Dear Student,

I am a doctoral student at the University of Texas at Austin and plan to graduate during the summer of 2010. In order for me to complete my doctoral program requirements, I must complete my dissertation. A dissertation is a study conducted by a doctoral candidate in which a certain problem is researched, discussed, and defended to a committee of experts in the doctoral student's field. The best way to think of a dissertation study is as a huge research experiment.

In order to complete my dissertation research study, I need to obtain information from students in the form of questionnaires and focus groups. I am asking that you participate in my research study by answering a brief questionnaire that asks about practices or factors that have contributed to your success on state academic assessments (TAKS Tests), college credit course completion, and your decision to stay in school through your senior year. The questionnaire takes a maximum of about 15 to 20 minutes to complete and your answers are totally confidential. If you are interested in participating in my study, I need you to complete the following:

1. If you are under 18 years of age, you and your parents need to read and sign the Parent Permission for Child Participation and Child Assent Form.

   Or

   If your are 18 years of age or older, read and sign the Adult Permission for Participation Form

   Both forms are included in this envelope containing the research study materials.

2. Return the signed Parent Permission for Child Participation and Child Assent Form or the Adult Permission for Participation Form in the pre-addressed, stamped envelope. The forms will be mailed directly to me.

3. Once the appropriate permission form has been returned, login to the following website to gain access to the questionnaire:
   http://www.zoomerang.com/Survey/WEB22AKPP4TYLQ

4. Complete the questionnaire and click "submit" when you have finished your responses to the questions.

Participation is this study is totally voluntary. You may cease your participation in the study at any point. Also, your participation in the study will in no way affect the grades in your classes or your standing on your campus.

I hope that you will decide to participate in the study. Your participation will be greatly appreciated.

Sincerely,

Andrew Lofters, M.Ed.
Doctoral Candidate
Community College Leadership Program
University of Texas at Austin
lofters3007@sbcglobal.net

Dear Student,

I am a doctoral student at the University of Texas at Austin and plan to graduate during the fall of 2010. In order for me to complete my doctoral program requirements, I must complete my dissertation. A dissertation is a study conducted by a doctoral candidate in which a certain problem is researched, discussed, and defended to a committee of experts in the doctoral student's field. The best way to think of a dissertation study is as a huge research experiment.

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In order to complete my dissertation research study, I need to obtain information from students in the form of questionnaires and focus groups. I am asking that you participate in my research study by attending a brief focus group session where I will ask your opinion about practices or factors that have contributed to your success on state academic assessments (TAKS Tests), college credit course completion, and your decision to stay in school through your senior year. The focus group will require approximately 30 minutes and your answers are totally confidential. If you are interested in participating in my study, I need you to complete the following:

1. If you are under 18 years of age, you and your parents need to read and sign the Parent Permission for Child Participation and Child Assent Form.

   Or

   If your are 18 years of age or older, read and sign the Adult Permission for Participation Form

   Both forms are included in this envelope containing the research study materials.

2. Return the signed Parent Permission for child Participation and Child Assent Form or the Adult Permission for Participation Form in the pre-addressed, stamped envelope. The forms will be mailed directly to me.

3. Attend the focus group session and give honest answers to the questions posed to you. Your focus group session will be held on [date] at [time] in Challenge Early College High School campus.

Participation is this study is totally voluntary. You may cease your participation in the study at any point. Also, your participation in the study will in no way affect your grades in your classes or standing at your campus.

I hope that you will decide to participate in the study. Your participation will be greatly appreciated.

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Dear Student,

I am a doctoral student at the University of Texas at Austin and plan to graduate during the fall of 2010. In order for me to complete my doctoral program requirements, I must complete my dissertation. A dissertation is a study conducted by a doctoral candidate in which a certain problem is researched, discussed, and defended to a committee of experts in the doctoral student's field. The best way to think of a dissertation study is as a huge research experiment.

In order to complete my dissertation research study, I need to obtain information from students in the form of questionnaires and focus groups. I am asking that you participate in my research study by attending a brief focus group session where I will ask your opinion about practices or factors that have contributed to your success on state academic assessments (TAKS Tests), college credit course completion, and your decision to stay in school through your senior year. The focus group will require approximately 30 minutes and your answers are totally confidential. If you are interested in participating in my study, I need you to complete the following:

1. If you are under 18 years of age, you and your parents need to read and sign the Parent Permission for Child Participation and Child Assent Form.

   Or

   If your are 18 years of age or older, read and sign the Adult Permission for Participation Form

   Both forms are included in this envelope containing the research study materials.

2. Return the signed Parent Permission for child Participation and Child Assent Form or the Adult Permission for Participation Form in the pre-addressed, stamped envelope. The forms will be mailed directly to me.

3. Attend the focus group session and give honest answers to the questions posed to you. Your focus group session will be held on [date] at [time] in East Early College High School.

Participation is this study is totally voluntary. You may cease your participation in the study at any point. Also, your participation in the study will in no way affect your grades in your classes or standing at your campus.

I hope that you will decide to participate in the study. Your participation will be greatly appreciated.

Sincerely,

Andrew Lofters, M.Ed.
Doctoral Candidate
Community College Leadership Program
University of Texas at Austin
lofters3007@sbcglobal.net

Appendix C

Online Questionnaire

Early College High School Survey

I would like your support by answering the questions in the following questionnaire. Your feedback is greatly appreciated.

1 Which early college high school do you attend?

2 What practices or strategies (ex: special programs, mentoring, counseling, etc.) does your campus utilize that have prevented you from dropping out of high school during the time that you have attended your campus?

3 What are any other factors (during school or outside of school) that have prevented you from dropping out of high school during the time that you have attended your campus?

4 What practices does your campus utilize that have promoted high academic achievement on state standardized tests (TAKS test scores) during the time that you have attended your campus?

5 What are any other factors (during school or outside of school) that have promoted high academic achievement on state standardized tests (TAKS Test Scores) during the time that you have attended your campus?

6 What practices does your campus utilize that have promoted college credit course completion (dual credit course completion) during the time that you have attended your campus?

7 What are any other factors (during school or outside of school) that have promoted college credit course completion (dual credit course completion) during the time that you have attended your campus?

SUBMIT

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