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High school students' perception of career technical education and factors that influence enrollment in programs at a regional occupational center

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HIGH SCHOOL STUDENTS' PERCEPTION OF CAREER TECHNICAL EDUCATION AND FACTORS THAT INFLUENCE ENROLLMENT IN PROGRAMS AT A REGIONAL OCCUPATIONAL CENTER

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by

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This dissertation, written by

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DEDICATION

This research is dedicated to my mother, Jean St. Gean, herself an educator for more than 40 years. She encouraged me to pursue a career in education and stressed the importance of furthering my education; hence the completion of my doctorate. Mom, thanks for being a wonderful role model and for inspiring me to work hard and to stay focused on achieving my dreams. I know that I have made you proud and that you have been and will always be my number one supporter.

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ABSTRACT

The purpose of this study was to learn about the demographic profile of South Bay–area high school Career Technical Education (CTE) students (those who enroll in CTE courses outside the school day), their perceptions related to CTE, the people and other factors that influence them to enroll in CTE courses, and students' opinions on which communication strategies present the advantages of enrolling in a CTE course.

The design of the study was quantitative and descriptive in nature and utilized survey methodology. The study was descriptive in that the outcome was an assessment of the nature of existing conditions. A survey instrument consisted of 48 questions and was administered to 160 high school students currently enrolled in 1 or more CTE courses at a CTE center in the South Bay area of Los Angeles. Courses were offered outside of the regular school day.

Findings from this study indicated that high school students enrolled in CTE courses outside of the school day have a career plan and understand the benefits of completing high school and pursuing additional education to achieve their career goals. Students participating in this study perceived that CTE courses are for all students, as well as for students who struggle academically. Students enrolled in CTE courses outside the school day are influenced to enroll in CTE by friends, mothers, and female guardians. An additional factor that influenced students to enroll in CTE courses is having a career plan. Students participating in this study identified the following most effective ways to communicate information about CTE courses: presentations at their high school, attending a career day at their high school, and receiving information from a friend.

Study findings suggest that further research should be conducted at comprehensive high schools, as well as career and technical high schools, regarding what impact a career plan has on high school graduation rates, enrollment in higher education and/or career fields, and understanding the parent perspective of CTE and how it aligns with the student perspective of CTE.

Chapter 1: Introduction

Background

One of the primary goals of the educational system in the United States has been and still is to prepare students for employment. According to Alan Greenspan, "The history of education in the United States traces a path heavily influenced by the need for a workforce with the skills required to interact productively with the evolving economic structure" (Greenspan, 2000, p. 419). In 2004, State Superintendent of Public Instruction Jack O'Connell (as cited in California State Board of Education [CDE], 2007) stated the following:

> The job of K-12 education in California must be to ensure that all of our students graduate with the ability to fulfill their potential—whether it takes them to higher education or directly to their careers. Unfortunately,…too many of our students are not adequately prepared for either. By raising our expectations for our students, we can and will begin to begin to change that. (p. x)

In the report, No Child Left Behind: Expanding the Promise, the major initiatives in President George W. Bush's 2006 Education Agenda were outlined. The High School Initiative states that it is the goal to "ensure that every student graduates from high school with the skills to succeed in either higher education or our globally competitive workforce" (U.S. Department of Education, 2005, p. 4). On February 24, 2009, during his address to Congress, President Barack Obama stated that the fastest-growing occupations require advanced skills. President Obama (Schoeff, 2009) stated:

> I ask every American to commit to at least one year or more of higher education or career training. This can be community college or a four year school; vocational training or an apprenticeship. But whatever the training may be, every American will need to get more than a high school diploma. (p. 6)

The percentage of students who graduate from high school nationally is between 68% and 71%, approximately one third of all public high school students in America do

not graduate (Swanson, 2003). The rate is approximately 50% for Black, Hispanic, or Native American students; 75% for Caucasian students; and 77% for Asian students. Girls graduate at slightly higher rates than boys across all groups. In 2003, 3.5 million youths, ages 16 to 25, did not have a high school diploma and were not enrolled in school (Swanson, 2003). In 2005–2006, the percentage of students who graduated from high school was 73.2% (Stillwell & Hoffman, 2009).

Throughout the years, it has been difficult to track both the high school dropout rate and graduation rate because there has been no standardized method to record a student's' entrance into kindergarten and exit from high school (National Governors Association, 2007). The percentage of students graduating from high school differs depending on the definition that is used. For example, according to Mishel and Roy, the number of students graduating from high school has been increasing and the number of dropouts decreasing for the past 40 years. They found that graduation rates are exaggerated when calculated using only enrollment and diploma data (Mishel & Roy, 2006). This study found that when the graduation rate is calculated based on students earning a regular diploma, one that is earned from completing the required courses for graduation at a comprehensive high school, the rate is between 80% and 83% nationally. In a study performed by the National Education Longitudinal Study (2002), the graduation rate nationally was at 82%. The national graduation rate from high school with a regular diploma for Blacks, according to the National Education Longitudinal Study, is 75% and for Hispanics 76% (as cited in Mishel & Roy, 2006).

The National Center for Education Statistics (NCES; 2006) defined a dropout as a young adult, aged sixteen to twenty-four who was not enrolled in a high school program

and had not received a high school diploma or obtained an equivalency certificate. NCES reports that the national dropout rate did in fact decrease from 14.6% in 1972 to 9.9% in 2003.

The CDE (2009b) uses the NCES definition to determine graduation rates. This graduation rate formula is determined by the number of graduates (year 4) divided by the number of graduates (year 4) + grade 9 dropouts (year 1) + grade 10 dropouts (year 2) + grade 11 dropouts (year 3) + grade 12 dropouts (year 4). Using this formula, in 2007–2008, the California statewide graduation rate was 79.5%. The Los Angeles County graduation rate was 74.7%. In the region where this study was conducted, graduation rates for 2007–2008 for seven school districts vary between 66.8% and 99.8%, as reported by the California Department of Education Demographics Office (CDE, 2009b). Four of the seven districts are in the 90% range, two are in the 80% range, and one at 66.8%. The average graduation rate among the districts in this region for 2007–2008 was 77.03%. Obviously, there needs to be an agreed-upon definition of a high school dropout. The National Governors Association has been working with all 50 states to come up with a common definition for determining graduation rates (National Governors Association, 2007).

According to Friedman (2005), the United States is suffering from a shortage of workers with both academic and technical skills. Given that dropouts are not getting the academic and technical skills they need to be successful in the U.S. workforce, U.S. employers are outsourcing jobs to other countries or employing skilled international workers to meet the United States workforce needs. In 2003, Jobs for the Future released a report indicating that the educational system must radically change how we educate

low-income and minority students if the United States is to going to meet the needs of providing 12 million highly skilled workers by 2020 (Steinberg, Almeida, Allen, Goldberger, Jobs for the Future, 2003).

To identify future career opportunities, many factors must be reviewed to project employment for specific occupations. This includes understanding the demand for goods and services, which is driven in part by changing demographics and population growth. By 2016, the percentage of the population 55 years and older will increase from 29.3% in 2006 to 34.8%. The change in demographics will increase the need for health care professionals and services to assist people with daily living activities. Jobs in these fields will increase more than any other area during the next 10 years, which results in a projection of 4 million new jobs (Dohm & Shniper, 2007).

According to the California Employment Development Department, from 2006 through 2016, there will be more than 2.5 million new jobs from industry growth and about 3.8 million jobs from net replacements, for a combined total of more than 6.3 million job openings generated in California. Net replacements measures the number of workers needed to replace those who have left the labor force or have changed occupations (Employment Development Department of California, 2006). The Department of California reports, during the next 10-year period, 2006 through 2016, the top 50 fastest growing occupations are each expected to grow at a rate of 24% or more. These occupations are concentrated in health care-, education-, and computer-related fields. Even though the United States is experiencing a recession, these same occupations have been identified in 2010 (U.S. Bureau of Labor Statistics, 2010).

Not only do educators need to be aware of emerging job areas, they must also follow job trends to determine in what sectors jobs will exist. Futurists such as Marvin Cetron, president of Forecasting International, predict that careers of the future will include bioinformatics (combines high-powered computing with biology), telematics (a combinations of telecommunications, computer science, and car design), and astrogeologists, astrophysiologists, and astrobiologists (the study of geology, people, and other organisms in space). These career areas are typical of what Marx (2007) refers to as the global knowledge/information age. Changes in the global knowledge/information age are happening so quickly that, according to Marvin Cetron, "Half of what engineering students learn as freshmen in college is outdated by the time they're seniors" (as cited in Marx, 2007, p. 297).

In addition, the Bureau of Labor Statistics (2006) states that the average worker entering the workplace is expected to have 10 to 14 careers in his or her lifetime. Friedman (2005) argues that in order to be successful in the new flat world economy, a person will need to make himself or herself irreplaceable. To accomplish this there will have to be systems in place with which employees can upgrade their skills. According to Kanter (1991), workers need to be able to make adjustments in their careers in order to be successful in a global economy. Kanter refers to this as "employability security" (p. 9), replacing the concept of employment security.

So, what are the reasons that students do not complete high school? In a study conducted by Bridgland, Dilulio, and Morison (2006), the top five reasons students gave were: (a) classes were not interesting, (b) missed too many days of school and could not catch up, (c) spent time with people who were not interested in school, (d) had too much

freedom and not enough rules in their life, and (e) failing in school. The James Irvine Foundation conducted a study of 9th and 10th graders in California who had dropped out of school (as cited in Landsberg, 2006). Four out of five (81%) of the students said that there should be more opportunities for real-world learning. Students stated that they need to see the connection between school and getting a good job and wanted more experiential learning.

Career Technical Education (CTE), formerly known as vocational education, does provide students with that connection between theory and application. CTE is a critical component of the educational system in that it provides students the opportunity to learn what is needed to get and keep a job, receive information about careers, have opportunities to experience careers in which they have an interest, and make informed decisions about their next steps after high school, be it further education or direct entry into the workforce. Currently, CTE courses are offered throughout the United States in 14,100 comprehensive high schools, 250 career technical schools, 1,100 career centers, and a multitude of postsecondary programs and facilities.

Research suggests that CTE integrated with academic learning has a positive impact on keeping students in school. Courses that integrate academics with CTE make the subject matter relevant and help students apply skills learned in the workplace setting. According to the U.S. Department of Education (2004), each high school career technical education course that a high school student completes results in an almost 2% increase in annual earnings. In 1998, 25% of high school graduates had completed courses in a single vocational area of study and earned three or more credits (Hurst & Hudson, 2001).

The California Department of Education (2005a) defines the primary role of Career Technical Education as,

> …preparing youths for careers and further study by raising students' achievement in technical literacy in order to:
> 1. Encourage less-motivated students to persevere in high school by showing the path to higher paying jobs;
> 2. Allow students to experience real-world applications of higher math and science; and
> 3. Open vistas of opportunities. (p. 59)

In California, high school students have the opportunity to enroll in CTE courses offered at their high schools sponsored by Regional Occupational Centers and Programs (ROC/P). ROC/Ps were started in 1967 and is the largest CTE delivery system in California. The Regional Occupational Center (ROC) that is the focus of this study sponsors CTE courses on the 14 comprehensive high school campuses within the region. Some of these high schools offer integrated academic and CTE programs such as academies on their respective campuses. High school students can also enroll in CTE courses offered at a ROC during the regular school day if they have completed their requirements for high school graduation or on track for graduation. Any high school student can enroll in a course at the center after school. Bus transportation is available in participating districts who enroll in the after school session. Some courses offered at the center are part of a 2 + 2 program or tech prep program with the community college.

Information pertaining to students enrolled in CTE programs offered on the 14 high school campuses where the participants in this study attend school is reported in each school's School Accountability Report Card (SARC), required to be published annually. Of the 14 schools, 11 also publish their SARC as part of their Web site. Information reported in the SARC includes the percentage of high school students

completing CTE programs and earning a high school diploma, CTE courses offered on the campus, and whether the high school offers a career academy program. The percentages of high school students completing CTE programs and earning a high school diploma ranges from 4.4% to 100% with an average among participating high schools at 77.82%. Unfortunately, it is not clear how each district/school has defined a CTE program, whether as a sequence of courses or only one course. Only one of the participating high schools in this study reported on the SARC that they offer a career academy program and only one listed the career pathways that are available to students. One high school listed the CTE courses that are approved by the University of California system as meeting the a-g entrance requirements. Of the participating high schools, 7 specifically refer to CTE as work preparation programs, separate from college prep programs (California Department of Education, 2009a).

Given the high dropout rate, the knowledge of what jobs are needed in the future, and the success that CTE programs can achieve there is one major barrier to students' participation in CTE. That is, the benefits of such programs are not realized by many educators, students, and parents. Negative perceptions associated with earlier vocational education programs persist. Wonacott (2000) states that in the past, it was widely thought that vocational education was for the students not planning on going to college, special-needs students, and students at risk for dropping out. Perceptions that CTE is only for high-risk or special-needs students actually began with the federal legislation that created CTE programs and by the students who took and completed CTE programs.

Many students, parents, and even educators and policymakers share this belief. Students working in externships or on-the-job training experiences associated with their

CTE program have stated to employer sponsors that in many instances, high school counselors would often discourage them from enrolling in CTE courses (Wonacott, 2000). According to Cohen and Besharov (2002), the image of CTE has been that CTE programs are of poor quality and are for the worst students. Research conducted by the National Research Center concluded that the perception of CTE needs to change (as cited in Lewis, 2001). Many people feel that CTE offers an inferior curriculum and that students who cannot meet college entrance requirements need to enroll in CTE courses. Efforts have been made to change the perception of CTE such as changing the name from vocational education.

There is limited research on the profile of a student enrolled in CTE programs. Understanding the profile of high school students enrolling in CTE programs outside their regular school day with regard to their academic standing and socioeconomic status will assist educators in understanding why students choose to participate. This information will assist educators in developing strategies to reach out to all students to enroll in CTE programs. Researchers have found that students of different levels of academic standing participate in CTE (Bowden, 1998; Kerka, 2000; Langland, 1999; Ries, 1997; Vo, 1997). Levesque and Hudson (2003) found the students in high academic achievement groups were less likely to be in a CTE concentration. Gaunt (2005) found that the grades of non-CTE students were approximately one grade classification higher than that of CTE students.

There is also limited research indicating that students enrolled in CTE courses are from lower socioeconomic groups (Campbell, 1986; Gaunt, 2005; Levesque & Hudson, 2003). Gaunt (2005) found that CTE students were slightly more disadvantaged than non-

CTE students. Although the living arrangements of students have been studied for high school students in general, the only study specific to CTE students was conducted by Gaunt. Gaunt found that 39.9% of the survey respondents live with both their mother and father, 19.8% live with their mother and stepfather, and 15% live with their mother only. Understanding both the demographic profile and the perception that these students have of CTE will be useful in educating high school students and their parents on the importance of CTE programs. Collecting ideas from high school students regarding the marketing of CTE programs will assist in developing ways to communicate information about CTE programs.

Problem Statement

One of the expectations of our educational system is to prepare students for employment, yet approximately 20% of high schools students in the United States do not graduate high school (Mishel & Roy, 2006). In 2007–2008, 20.5% of high school students in California, 25.3% in Los Angeles County, and 22.9% in the region where this study was conducted, did not graduate from high school (California Department of Education, 2009a). Studies have shown that students who enroll in CTE courses are more likely to graduate from high school, acquire employability skills, and increase their earning potential. Yet, there has been a decrease, 33%, of student participation in CTE from 1987 to 2005 (Little Hoover Commission, 2007). One reason for this might be the perception that people have of CTE. According to Cohen and Besharov (2002), many people have the perception that CTE is for the worst students and this in turn has an impact on enrollment.

Purpose of Study

The purpose of this study is to learn about the demographic profile of South Bay-area high school CTE students (those that enroll in CTE courses outside the school day), their perceptions related to CTE, the people and other factors that influence them to enroll in CTE courses, and to solicit students' opinions on which communication strategies present the advantages of enrolling in CTE courses.

Research Questions

1. What is the demographic profile of high school students enrolled in CTE programs at the ROC located in the South Bay area of Los Angeles County?
2. What are the perceptions of South Bay-area high school CTE students regarding CTE?
3. Who are the people who have influenced South Bay-area high school CTE students in their decisions about enrolling in CTE?
4. What other factors, if any, have influenced South Bay-area high school CTE students in their decisions about enrolling in CTE?
5. What communication strategies do South Bay high school students see as accurately presenting the advantages of enrolling in CTE courses?

Significance of Study

The significance of this study is first, to provide information on the demographic profile of high school students enrolling in CTE courses outside of the school day. Gaunt (2005) found that high school students who enrolled in CTE courses were performing lower academically. Gaunt (2005) found that high school students who did not enroll in CTE courses were performing at one classification higher than those enrolled in CTE

courses. Second, the purpose of this study is to understand the perception of CTE from a high school student's perspective. Gaunt (2005) found that 80% of the high school seniors responding to the survey believed that the CTE center in this study offered programs for all students regardless of ability level, representing a positive perception of CTE. Only 40% believe that the center offered programs for students who have difficulty in their academic courses, representing a negative perception of CTE.

Third, this study looks at the factors that influence a high school student's enrollment in CTE programs, including people and other factors. Gaunt (2005) found students are most influenced to enroll at the CTE Center by their friends (more than 70%), mother (61.9 %), father (57.7%), and CTC staff (52.4%).

Finally, this study looks at ways to inform high school students about CTE and how to access CTE programs via communication strategies. According to Brown (2003), parents, students, and employers still hold stereotypes about CTE. Adults who are responsible for informing students about CTE might be influencing students adversely from enrolling in CTE courses.

Delimitations of the Study

The literature indicates that there is a need to understand the demographic profile of high school students enrolled in CTE courses as well as the factors that influence their decisions to enroll. In addition, soliciting ideas regarding communication strategies, presenting the advantages of enrolling in a CTE will assist in educating people about CTE. This study focuses on high school students, Grades 10–12, enrolled in CTE courses outside the school day at one CTE center located in the South Bay region of Los Angeles County. Outside the school day is defined as attending the center after the regular school

day (approximately 8 a.m. to 3 p.m.), during which time a student has completed his or her classes.

Limitations of the Study

Survey results are based on self-reporting by a regionally defined group of high school CTE students. Although all high school students enrolled in a CTE course at the center outside of the school day were invited to participate, only those students who returned a signed parent permission form were invited to complete the survey. This group might be considered more responsible in that they had to take the initiative and obtain written parent consent before completing the survey; others who did not return the parent consent form might be considered less responsible. The perceptions of the students participating in this study were limited based on their experiences related to the specific CTE programs in which they were enrolled. These findings cannot be generalized to other high school students. This study was limited to those students who were willing to participate in the survey.

The CTE center where the study was conducted is one of two in the state of California. It was the first ROC/P established in California, opening its doors in 1998. CTE centers were established in California to provide vocational training that required expensive equipment that individual high schools would not be able to afford. As a regional center, students from all over the region have the opportunity to attend classes. While this single center might be somewhat similar to other centers statewide and nationally, certain factors may be specific to this center. These factors include how students are recruited, demographics, availability of transportation during one of the sessions, and image of CTE in the region.

Statement of Assumptions

I am working in the field of CTE and have served as a high school principal. While serving as a high school principal, I developed beliefs regarding how high school students access information regarding CTE courses. In listening to words adults use to describe CTE, I believe adults continue to perpetuate the perception that CTE courses are for noncollege bound, potential dropouts, or other students with special needs. This influences high school students' perceptions of CTE. As efforts are made to educate the adults responsible for informing high school students of their options and opportunities, there is also a need to inform high school students and their parents directly about CTE to alleviate misconceptions regarding CTE. Asking students about their perceptions and ideas about informing high school students about CTE will help students and parents understand the power of CTE in helping students focus on the future.

Every year, the Center for Evaluation on Education Policy (2005) administers the High School Survey of Student Engagement. Results provide educators with data pertaining to student engagement, whether students are developing the learning habits and study skills necessary to be successful in postsecondary education, and assist schools in identifying successful strategies for retaining students and keeping them engaged in learning. At the end of the survey, there is an open-ended question that asks students if there is anything else they would like to add. One of the most common responses given is that the students feel that the surveys would not be read and that nothing would change as a result of their responses (Yazzie-Mintz, 2007). Yazzie-Mintz concludes that in order to increase and improve academic engagement among students, it is imperative that educators listen to students and incorporate their ideas into the educational environment.

Definitions of Terms

1. *Career Technical Education* is "a program of study that involves a multiyear sequence of courses that integrates core academic knowledge with technical and occupational knowledge to provide students with a pathway to postsecondary education and careers" (California State Board of Education, 2007, p.10).
2. *Career Academy Programs* are organized small learning communities. Academic and technical curricula are organized around a career theme, with partnerships with local employers providing work-based learning opportunities (Kemple & Scott-Clyton, 2004).
3. *Concentrator* is a student who earns at least three credits in a vocational area (Hyslop, 2006).
4. *Employability Security* is defined as the knowledge that one has of the competencies demanded in a global economy and the ability to make adjustments to those competencies as jobs requirements change (Kanter, 1991).
5. *High School Graduation Rate* was calculated using one of the following three No Child Left Behind-based measures:
6. A population-based rate that measures the percentage of people in a specified population who have completed high school.
7. A school-based rate that measures the percentage of students who graduate in a specific year.

8. A hybrid of the two that is the ratio of high school graduates to the population age 17 in a specific year (National Institute of Statistical Sciences, 2005).
9. *Middle College High Schools* are secondary schools, located on or close to college campuses across the country, educating underserved students who have the potential to benefit from a rigorous academic curriculum offered within a supportive and nurturing environment. Middle Colleges allow high school students the opportunity to earn a high school diploma and transferable college credits upon graduating (Zapf, Spradlin, & Plucker, 2006)
10. *Net Replacements* measure the number of workers needed to replace those who have left the labor force or have changed occupations (Employment Development Department of California, 2006).
11. *Perception* is defined as mental image or concept (Merriam-Webster, 1993).

Regional Occupational Centers (ROCs) play an important role in career preparation and workforce development efforts in California. ROCs are a critical resource necessary to address the need for high skilled, diverse workforce. ROCs offer most courses at a center, providing qualified students with the opportunity to attend a career and technical education training program (CDE, 2005a).

School Accountability Report Card (SARC)—all public schools in California are required annually to prepare SARCs and disseminate them to the public. SARCs are intended to provide the public with important information about each public school and to communicate a school's progress in achieving its goals (CDE, 2009a).

Tech Prep/2+2 programs work to integrate academic and CTE programs by combining at least 2 years of high school CTE and academics with 2 years of

postsecondary education (2+2). The desired outcome of Tech Prep programs is to provide maximum preparation for higher-wage employment or continued education (California State Board of Education, 2007).

UC a-g entrance requirements are subject-area admission requirements created by the University of California's Academic Senate and adopted by both the University of California and the California State University system. Courses must be certified by the university as meeting the requirements and added to the school's UC-certified course list to fulfill a-g admissions requirements (California State Board of Education, 2007).

Vocational Education "organized educational programs offering a sequence of courses which are directly related to the preparation of individuals in paid or unpaid employment in current or emerging occupations requiring other than a baccalaureate or advanced degree" (NCES, 1995, p. 2).

Organization of the Study

This study is organized into five chapters. Chapter 1 introduces the reader to the research study and includes background information, statement of problem, and the research questions to be answered. Chapter 1 also includes the purpose of the study, the significance of the study, limitations, assumptions, and definition of terms. Chapter 2 presents a comprehensive review of the literature related to CTE. Chapter 3 explains the design of the study, the instrumentation utilized, the selection of respondents, data collection procedures, and the data analysis techniques. Chapter 4 presents the findings of the study. Finally, Chapter 5 gives an analysis of the major findings of the study, provides specific conclusions, and offers recommendations for further study.

Chapter 2: Literature Review

Purpose of Education

The first three sections of the literature review focus on the history of education, legislation that has been passed, and the philosophies of individuals responsible for shaping policy. This information is important for understanding the role that vocational education, called CTE, has played in education and the perceptions that individuals have of CTE. This section begins with the history of vocational education, followed by key federal and California enacted legislation pertaining to CTE. Also discussed are key individuals who were engaged in the debate over vocational education and were responsible for shaping policy and, ultimately, perception.

When the United States was founded, education was the exclusive right of the wealthy. Thomas Jefferson, a member of the wealthy class, was a powerful proponent of public schools for all. Jefferson believed that a democracy needs an educated populace in order to make informed choices. He advocated for a system of education that provided for all citizens rich and poor. This idea of education for all, and as a means to address inequalities, has never died (Friedman, 2005; Oakes, 2005).

The American Educational system was patterned after the educational system in Europe. Evidence of this is found in the apprenticeship laws of the Massachusetts Colony, which included the concepts of both academic and vocational instruction. Apprenticeship programs provided the chief source of education for more than 150 years when the American colonies were established. This structure provided education for the masses and it remained the main training form for industrial employment, even after the factory system was introduced in the United States (Gordon, 2008).

History of Vocational Education

United States

Throughout history, reform efforts have focused on solving society's ills by reducing economic, class, or racial inequalities. The vehicle for this reform has been the educational system, and for many years people in the United States have expected that education play a key role in helping the poor improve their lives. This was also a belief of Thomas Jefferson, who believed that education is the instrument that can improve the condition on man (Friedman, 2005; Oakes, 2005).

Prior to the industrial revolution, the United States was predominantly an agrarian society. The education of young people looked much different than it does today. Children became involved in the work responsibilities of their parents, and at the age of 13 could be proficient in an occupation such as farming. When society became more urban and suburban, the parent-child relationship changed and was more focused on the child's endeavors. Parents' attention shifted to transporting children to activities and participating as spectators. According to Coleman, children lost the opportunity to be part of and learn from adult responsibilities at this time (Coleman, 1959). This change took place around 1820, the time of the Industrial Revolution in the United States, and set the stage for a more formalized vocational education system.

The American version of the Industrial Revolution was triggered by three events, according to Hawkins, Prosser, and Wright (1951). These were the Embargo Act, the Non-Intercourse Act, and the War of 1812. These events "sealed the marketplace to foreign manufactured goods and guaranteed a return on any money invested in U.S. production facilities" (Gordon, 2008, p. 8). The result was that business incorporated new

technology into its manufacturing operations and switched to large-scale production. The transition to large-scale production set the stage for new forms of education to appear.

Throughout the years, there have been many reform efforts in the educational system. Free public high schools began in the 1860s in New England. Even though there was no cost to attend high school, only 10% of teens attended high school by 1890 (Oakes, 2005; Tyack & Cuban, 1995). Schools in the 1800s were different for students from the wealthy class and for those from the working class or indigent backgrounds. The focal point of the curriculum in schools for the working class was manual training in which handwork was taught in connection with other areas of instruction (Bennet, 1926). Manual training can trace its roots to Germany in the form of trade guilds and apprenticeship programs. The manual training program was the beginning of a shift of perception regarding what could and should be taught in public schools from that of only preparing students for college (Gordon, 2008).

In 1876, Dr. John D. Runkle, president of the Massachusetts Institute of Technology, visited the Imperial Technical School of Moscow's Russian exhibit. The exhibit included a demonstration of a system of tool instruction based on the construction of models from plans designed and drawn by students (Wirth, 1972). The system was essentially a laboratory method of teaching in which students were given a set of exercises organized in a logical order for teaching purposes (Struck, 1930). What Runkle observed led him to develop a teaching method that integrated academics with vocational education (Goble, 2004). This integration of academics with vocational education was the beginning of the vocational education system in the United States.

In 1906, there was a nationwide movement led by the National Society for the Promotion of Industrial Education. The National Society for the Promotion of Industrial Education's efforts targeted states, encouraging them to incorporate a full vocational program. According to the National Society for the Promotion of Industrial Education, 29 out of the 46 states in 1910 offered at least some form of vocational education in their public schools (Gordon, 2008).

Rapid economic development at the beginning of the 20th century created a need for workers who could handle clerical and skilled craft jobs. In the early 20th century, these skills were taught in private business and trade schools. The payoff for people with these skills was high. In 1915, adult males in Iowa who spent 1 year in a business school earned 34% more than other adult males with the same amount of training, and unmarried females who had attended business school earned 47% more. Public schools saw this as an opportunity and began adding such courses as typing, stenography, and bookkeeping to the public school curricula. Had high schools remained purely academic, secondary enrollment would have grown more slowly and graduates would have had a difficult time getting good jobs (Bishop & Mane, 2003).

California

Vocational education started in California in the mid-1800s at the same time as the concept began throughout the United States. The Smith-Hughes Act of 1917 was the first federal legislation that was passed and provided California with additional funding for vocational courses through the matching of state funds. This additional funding resulted in an increase of vocational courses in California, which were integrated into the regular high school setting (Mitchell & Hecht, 1989). The adoption of the Vocational

Education Act of 1963 expanded the scope of the original Smith-Hughes legislation. The revisions contained in the Vocational Education Act of 1968 expanded the 1963 program and increased federal funding.

California Education Code 52300 was enacted in 1963. At that time, it was Senate Bill (SB) 1379 and was included in the Education Code as Section 7450. Senate Bill 1379 established ROC/Ps in California. ROC/Ps were and still are the primary delivery system of career and technical education. In 1967, California established ROC/Ps throughout the state. ROCs were established to offer equipment intensive programs that school districts would not be able to afford (EdSource, 2007a). There were two such centers established in California. One center is located in Northern California and one is located in Southern California. ROC/Ps provide CTE for high school students as well as an educational delivery system for adults. There are 74 ROC/Ps statewide and more than 500,000 high school students and adults attend ROC/P classes.

The adoption of the Hughes-Hart Education Reform Act of 1983, commonly known as SB 813, 20 years later changed the focus in high schools from vocational achievement to improvement of a student's academic success. Mitchell and Hecht (1989) stated, "The new graduation requirements mandated by SB813 reduced the number and variety of elective courses available to high school students, with the effect of completely eliminating or drastically reducing the high school vocational offerings" (p. 19).

Legislation Pertaining to Vocational Education

A review of the legislation provides a perspective of how vocational education has developed in response to economic and political events. The federal government first became involved in vocational education with the passage of the Smith Hughes Act of

1917 (Gordon, 2008). The Smith Hughes Act was passed in response to the United States' exposure to vocational programs in Germany during World War I. This act required that states receiving federal funds establish a separate state board for vocational education and set the stage for the separation of vocational education and academic education. This can be seen today in states having separate training programs, teacher organizations, and student organizations. This was the first time that the federal government provided federal funding for vocational education programs (Castellan, Stringfield, & Stone, 2003; EdSource, 2005; Wirt & Kirst, 2005). The Smith-Hughes Act was directed at secondary students and defined vocational education as "preparation for employment in positions requiring less than a baccalaureate degree" (Oklahoma Department of Career, and Technical Education Curriculum and Instructional Materials Center, 2006, p. 4).

During 1918, the first year of the Smith-Hughes Act, the total enrollment in vocational training was just under 1,000. Fourteen schools offered home economics to approximately 400 girls. Boys primarily studied vocational agriculture. The 318 young men enrolled in the trades and industries division were Army draftees training for WWI. The American Vocational Association was founded in 1926 to provide support for the increase in vocational programs. In 1926, enrollment in vocational programs exceeded 850,000. In 1929, the Smith- Hughes Act was amended as the George-Reed Act. The new act created home economics as an independent division separate from trades and industries (Goble, 2004). The George-Deen Act of 1936 established marketing occupations as a separate area and was in response to the recovery period following the

Great Depression. The act was different from the Smith Hughes Act in that it was an authorization, not a permanent act, and increased funding to $12 million annually.

Amendments to the George-Barden Act of 1946 amended the George-Deen Act. This act not only increased the appropriation of federal funds from $14 million to $29 million, it also was a response to the need to retrain thousands of returning World War II veterans (Calhoun & Finch, 1982).

The George-Barden Amendments of 1956, also referred to as the Health Amendment, was in response to the shortage of nurses. The preparation of practical nurses was added to the mission of state vocational education programs (Gordon, 2008).

The National Defense Education Act of 1958 triggered a shift from a focus on vocational education to academics in response to Russia launching Sputnik I. In 1957, when the Soviet man-made satellite Sputnik was launched, the National Defense Education Act created a funding stream to any form of education that contributed to the protection of the United States (Goble, 2004). The outcome of the National Defense Education Act was the passage of Title VIII, which resulted in not only doubling the funds for vocational education but also stated that the funds be used to train people for occupations requiring scientific knowledge necessary for national defense. This legislation extended the role of school counselors and their role in school reform. Their job was to identify students who would be successful in enrolling in a science degree program in college. The result was an increase in the number of school counselors, the availability of counselor education programs, the development of professional literature in school counseling, the organization of K-12 programs of school guidance, and the

commitment of state departments of education to increase certification requirements of counselors (Herr, 2002).

In 1961, President John Kennedy signed the Area Redevelopment Act to increase job training for regions where chronic unemployment existed (Goble, 2004). The Manpower Development Training Act of 1962 was passed in response to the increase of automation and changes in technology. Its purpose was to assist with the dislocation of unemployed and underemployed workers by authorizing funds for training and retraining. It offered advanced technical training to those lost their jobs as a result of automation. (Goble, 2004).

The Vocational Education Act of 1963 was passed in response to the report "Education for a Changing World of Work" published in 1963. This report, commissioned by the United States Department of Health, Education, and Welfare, evaluated the state of vocational education in America. The report was extremely critical of traditional vocational programs and recommended that vocational education target people not professions. The major goals of the Vocational Act of 1963 were to "maintain, extend, and improve existing programs of vocational education and to provide part-time employment for youth who needed the earnings to continue their education on a full-time basis" (Gordon, 2008, p. 91). This act rejected the traditional formula for distributing federal aid to the states to target certain age groups within a state's population. The Vocational Education Act of 1963 modified vocational education, including changing the focus to serving people, not professions; adding a target group of people who had completed or discontinued their formal education and special education populations; and

adding postsecondary education for adults and area vocational school for secondary students.

The Vocational Education Amendments of 1968 amended the Vocational Act of 1963. These amendments replaced all other federal legislation accept the Smith-Hughes Act. The purpose of these amendments was to provide access to appropriate training and retraining for all citizens. The amendments emphasized vocational education in postsecondary schools and brought the definition of vocational education closer to general education.

The Comprehensive Employment Training Act of 1973 replaced the Manpower Development Training Act. The effect of this act was to transfer decision making from the federal government to local and state governments (Gordon, 2008).

The Vocational Education Amendments of 1976 were to make sure that states included interested agencies in their planning and that states utilized all available resources for vocational education. The amendments had as one of their goals that states develop a way to monitor vocational education programs to ensure that sex discrimination and sex stereotyping did not occur in program offerings. It was at this time that the National Assessment of Vocational Education was formed along with the NCES. Its responsibility was to collect and monitor data. After reviewing this data, it was found that previous vocational legislation had not been effectively implemented (Gordon, 2008).

In 1978, the Career Education Act was passed, which included a comprehensive development concept. Individuals would be involved in various planned experiences and

implored educators and school counselors in particular to work with students on career decisions (Herr, 2002).

The Job Training Partnership Act of 1982 replaced the Comprehensive Employment Training Act. Its intent was to establish programs for youth and unskilled adults for entry into the labor force. It also provided job training to economically disadvantaged individuals having a difficult time overcoming barriers to becoming employed.

Federal legislation pertaining to vocational education did not change significantly from 1917 to 1984. The Carl D. Perkins Vocational and Applied Technology Education Act of 1984 amended the Vocational Education Act of 1963 and replaced the amendments of 1968 and 1976. This act had two goals: (a) preparing adults for job opportunities by improving the skills of the labor force, and (b) ensuring that adults had equal opportunities for accessing vocational education programs (Gordon, 2008). It was also the first effort to integrate academics in vocational education (Oklahoma Department of Career, and Technology Education Curriculum and Instructional Materials Center, 2006).

When the Carl D. Perkins Act was reauthorized in 1990, known as Perkins II, the National Center for Educational Statistics (1995) defined vocational education as "organized educational programs offering a sequence of courses which are directly related to the preparation of individuals in paid or unpaid employment in current or emerging occupations requiring other than a baccalaureate or advanced degree" (p. 2). Perkins II required integrated academics in CTE curriculum and work- based learning experiences (Stone, 2002). Integrating academics into the CTE curriculum was a shift

back from when the focus shifted to academics and college prep in response to "A Nation at Risk."

The School-to-Work Opportunities ACT of 1994 was passed to address the national skills shortage, emphasizing preparing students with not only the skills needed, but also where the jobs were, based on a review of the labor market. It was felt that having this information would assist people in making the transition from school to post school employment. Key elements to accomplish this were "collaborative partnerships, integrated curriculum, technological advances, adaptable workers, comprehensive career guidance, work-based learning, and a step-by-step approach" (Gordon, 2008, p. 97). The legislation spelled out specific guidelines for implementing school-to-work initiatives with a focus on whole school reform.

The Personal Responsibility and Work Opportunity Act of 1996 was the new welfare reform bill signed by President William Jefferson Clinton. One aspect of this legislation required recipients of welfare to become employed within 2 years of receiving federal assistance. Adults were allowed to use up to 12 months of CTE training as "work" (p. 98). Teenage parents were allowed to use high school attendance as part of the work requirements (Gordon, 2008).

The Workforce Investment Act of 1998 established state workforce investments boards. These boards work with the governors to develop each state's 5-year strategic plan, addressing the need for job-training services. The role of the workforce investment board is to set training policy at the local level according to the state plan. In July 2000, the Job Training Partnership Act was repealed and replaced by the Workforce Investment Act. The Workforce Investment Act Amendments of 2005 were to improve the

workforce investment system created under the Workforce Investment Act of 1998 (Gordon, 2008).

After 4 years of debate by Congress, Goals 2000 was signed into law in March 1994. The purpose of this act was to align state and local criteria and develop and implement performance standards. In addition, it was required that states implement a system to measure whether students mastered these standards. Establishing a system for professional development for educators was also included in this legislation (Gordon, 2008).

In 1998, the Carl D. Perkins Act was again reauthorized, known as Perkins III. The act eliminated special populations, integrated academics, "emphasize[d] industries and careers in place of entry-level, job-specific training" (U.S. Department of Education, 2002, p. 4), and strengthened ties with postsecondary institutions. In 1998, the Vocational Education Association changed its name to the Association for Career and Technical Education (Association for Career and Technical Education, 2006). Perkins III, along with Workforce Investment Act, refocused the need to align CTE programs with workforce investment activities that increase employment, retention, and earnings thereby improving the quality of the workforce.

In 2002, the No Child Left Behind Act was signed into law by President George W. Bush. This act reauthorized the Elementary and Secondary Education Act of 1965 and put in motion the most comprehensive reform effort in education in years (Gordon, 2008).

In 2006, the Carl D. Perkins Act was again reauthorized and is known as Perkins IV. Vocational education was changed to CTE, 8 years after the Vocational Education

Association changed its name to CTE. In 2006, CTE programs looked different; therefore, the name change. The Perkins Act provides for secondary and postsecondary partnerships with business and industry, industry assessments, credentialing of students, and placement of students after graduation. Perkins IV eliminated the restriction that CTE programs could not prepare students for a baccalaureate degree (Gordon, 2008).

In recent years, legislation pertaining to CTE has been passed in California. In 2002, the same year the No Child Left Behind legislation was passed, the state legislature authorized the California Department of Education to create CTE curriculum standards and frameworks (Gordon, 2008).

The California State Board of Education adopted CTE standards were in 2005 and the CTE framework in 2007. These standards and framework are to guide CTE curriculum development. Senate Bill 70 was signed in 2005, allocating $20 million for CTE programs. These were the first state funds to be allocated for CTE in 15 years. Additional legislation, AB 2448, was passed in 2006. This legislation encouraged high school–based ROC/Ps and required a comprehensive high school plan for each high school participating in an ROC/P. To be included in the comprehensive plan are pathways to higher education or a high skill occupation upon completion of high school (Gordon, 2008).

Role of CTE

We cannot think about preparing students for careers without considering the global society in which we live. Even though we do not know what the jobs of the future might be, we do know that students need to be able to use their imaginations, utilize new tools to create products, and take a creative approach to solving problems. This changes

how we as educators prepare students for their futures. Not only do we need to prepare students academically, but we must also provide students opportunities to learn about different career options in order to know what future educational and career path they wish to pursue. Daggett (2007) states that CTE programs and the arts are the way to deliver curriculum to today's youth. According to Daggett, today's youth are digital learners, multimedia savvy, can find and manipulate data, analyze data and images, and multitask faster than previous generations.

In order for educators to prepare students for their futures, it is important first to understand the perceptions that individuals have in regard to CTE. To understand fully why such perceptions exist, it is important to study the debate around CTE and its role throughout history. The debate over the purpose of CTE beginning in the late 1800s, then known as vocational education, depicts the differences in opinions of the role that CTE played in education and how perceptions of CTE evolved.

In the late 1800s, there was a need to reform American schools in response to social and economic problems. Issues at that time included an increase in immigrants participating in the educational system, industrialization, unemployment, labor conflict, and lack of organization of skilled workers. During that period, both Jane Adams and John Dewey supported vocational education. Social reformers, such as Jane Adams, believed that vocational education would empower workers. This in turn, she thought, would reduce the abuses that took place in the workplace. Many manufacturers, at the time, used vocational education as a tool to gain compliant workers, and thereby weakening union control over entry into the trades (Gordon, 2008).

John Dewey felt that children were inherently active beings who wanted to communicate with others, construct things, and to investigate and create. In his book *Democracy and Education*, written in 1916, Dewey stated that education needed to be practical and meaningful. He believed that a divided system would reinforce class differences and add to the stratification of society (Dewey, 1916). In his essay, "An Undemocratic Proposal," written in 1913, Dewey argued against two separate education systems. Although Dewey's ideas never prevailed, he believed that practical experience is crucial to a student's education and his ideas influenced the first thirty-five years of education in the 20th century (Wirth, 1972).

There were other philosophies that emerged in the ongoing debate around vocational education. John D. Runkle, president of MIT, felt that vocational education was a practical way to create a class of skilled technicians and to teach engineering. Frederick Taylor utilized an industrial approach of sorting and tracking students. Both David Snedden and Charles Prosser, who was the secretary of the National Society for Promotion of Industrial Education, believed that vocational education was a way to test and sort individuals according to ability. Prosser believed that vocational training should meet the needs of industry more than the needs of the individual and are reflected in his 16 theorems of vocational education. These theorems included ideas such as providing training that takes place in an environment replicating the workplace; using the same tools; allowing the individual to capitalize on his or her interests, aptitudes, and intrinsic intelligence to the highest possible degree can only be given to a selected group of individuals who need it, want it, and are able to profit by it; vocational education must

train individuals to meet the demands of the market; and the administration of vocational education must be elastic and fluid rather than rigid and standardized (Gordon, 2008).

Following the 1960s, the role of CTE was a political response to the war on poverty and social upheaval. During the 1970s, President Richard M. Nixon's administration believed that the aspirations of society that resulted from the policies of President Lyndon B. Johnson's administration could not be fulfilled. The problem was that youth could not see the relevance of what they were doing in school, which resulted in disenchantment, rebellion, and delinquency because general education program did not prepare students for higher education or the labor market (Herschbach, 2001). Reforms to career education would change this by focusing all elements of school on careers and having students develop more realistic career goals. The two key concepts of this reform were articulation and integration. Instruction would be integrated with work in that, for example, students would explore careers through essays written in their English classes. Social Studies could include studying work production and electronics might be incorporated in Algebra. Industrial educators supported this because they felt that a balance to the school curriculum would help students see the relevance in what they were learning. Although efforts were made by supporters of career education to reform education in 1974, career education was pushed aside by other national priorities such as busing, accountability, and testing. Universities were never convinced that career-oriented courses were substitutes for courses that were organized around the traditional academic fields.

In 1983, the federal report "A Nation at Risk" was published. This report suggested that American students were outperformed on academic tests by students of

other industrial countries and that test scores had been declining. The report found that students had migrated from vocational and college preparatory programs to general track courses in large numbers. Students enrolled in a general program of study increased from 12% in 1964 to 42% in 1979 (National Commission on Excellence in Education, 1983). In response to this study, states mandated more testing and more mandated curriculum (Johnson, Collins, Dupuis, & Johansen 1985).

Between 1982 and 1992, high school students completing a vocational course fell by 11%. Beginning in 1982, enrollments in traditional fields such as auto mechanics and materials production declined while health care courses tripled and computer-related occupational courses went from .16 credits in 1982 to .97 credits in 1998. From 1982 to 1998, students enrolled in vocational courses and academic courses increased by 27% respectively. In addition, the number of concentrators rose from 8% in 1982 to 18.5% in 1990 to 46% in 1998. High school graduates who completed both college prep and vocational concentrators increased from 0.5% in 1982 to 7% in 1998. According to Bishop and Mane (2004) in 1983, 14% of students enrolled in vocational programs also took college prep courses and in 1992, 41% were enrolled in college prep courses.

The percentage of occupational concentrators going to college increased from 41.5% in 1982 to 54.7% in 1992. National Assessment of Educational Progress scores in reading increased nearly a grade level for CTE concentrators between 1994 and 1998 (Silverberg, Warner, Fong, & Goodwin, 2003). Approximately half of all high school students and close to one-third of college students enroll in vocational programs as a part of their studies (U.S. Department of Education, 2002). In 1998, the U.S. Department of Education (2003) reported 96% of students graduating from high school in 1998 earned

one or more credits in any form of CTE, 44% earned three or more credits in occupational courses, 25% earned three or more credits in a single occupational program area, and 19% earned three or more credits in more than one occupational program area.

The National Assessment of Vocational Education, in 1995, reported that the percentage of high school graduates who earned at least three credits in a labor market preparation area fell by 28%. In addition, while vocation course taking declined in high school, it increased dramatically at the postsecondary level (as cited in Bishop, 1995b). As high school graduation requirements increased and high school students enrolled in more academic courses, there were fewer introductory vocational courses offered in high schools. The introductory CTE courses taken by high school students decreased from 1.62% in 1982 to 1.3% in 1990. This percentage remained stable during the 1990s. Most of this decline in introductory CTE courses was the result of a 50% reduction in typing and keyboarding courses offered at the high school level, as it was found that these skills were acquired in earlier grades (Levesque & Hudson, 2003).

Since 1998, as academic standards have continued to rise with the passage and implementation of No Child Left Behind, high schools have reduced the number of CTE course offerings. In response, there has been an effort to shift the philosophy of those involved in CTE to incorporate academic standards and to educate people that CTE is not an alternative to college but a pathway to college (Ries, 2000).

Skills learned in CTE courses can result in students getting jobs that pay more without a college degree, but at the same time prepare students for degree programs in college. Most students who do go to college do not have a clear idea of what interests them, which results in changing majors. In the end, students find the major that they can

complete the fastest, ultimately leaving college without any job prospects (Dembicki, 1999). It is apparent that CTE provides students with more options as they pursue their career paths. According to Ries (2000), students see the opportunities that CTE offers.

There is a strong correlation between students continuing with postsecondary education and the CTE courses that have been taken in high school. According to the U.S. Department of Education (2004), each high school CTE course that a student completes also results in almost a 2% increase in annual earnings. In 1998, 25% of high school graduates had completed three or more credits in a single vocational discipline (Hurst & Hudson, 2001). In 2003, computer-related courses accounted for 33% of all occupational vocational courses (Levesque, 2003). When high school students increase the number of academic courses and CTE courses they enroll in simultaneously, they are better prepared for college than those students who focus only on academics or CTE (Silverberg, Warner, Fong, & Goodwin, 2004). Still, students who enroll in both concurrently represent only 13% of high school graduates.

There is evidence that there are two major benefits to offering occupation-specific courses in high school. First, by giving students the option of choosing career-technical courses in high school, students will stay in school and graduate. The graduation rate will increase as well as the number of students continuing their occupational preparation in college. Second, evidence also indicates that students who begin preparing for an occupation in high school are more successful in the labor market both in the short and long run. These students are more likely to find employment and enter the occupation of their choice and increase their earning power (Bishop & Mane, 2003). School-to-career programs present academics in a context that interests students. It is realized that

contextualized learning can engage students who might not succeed in academic subjects otherwise and also provide them with a focus for the future and inspiration for continuing their education.

Several studies have shown how CTE programs benefit high school students. Schargel and Smink (2001) identified five potential benefits for at-risk- students who take CTE courses:

- Enhancement of students motivational and academic achievement;
- Increased personal and social competence related to work in general;
- A broad understanding of an occupation or industry;
- Career exploration and planning; and
- Acquisition of knowledge or skills related to employment particular occupations or more generic work competencies. (p. 212)

In a study conducted by James Irvine Foundation in 2004 of 9th and 10th graders in California, 6 of 10 students stated that they were not motivated in school. Of the survey participants, 90% agreed that they would be motivated if classes were relevant to future careers (as cited in Landsberg, 2006). Stone (2004) identified several program techniques that keep students in school: career guidance, work-based learning, career pathways, and tech prep. Coleman (1959) suggests that secondary education should offer all adolescents more opportunities for career exploration and opportunities to deal with real-world problems. In fact, high school graduates who are proficient in reading and mathematics do not get better jobs than their less-accomplished peers in the years immediately after graduation (Bishop, 1992). However, high school graduates who completed vocational courses and worked a part-time job while going to school tend to

get the better jobs after graduation (Bishop, 1995b). Carroll, Krop, Arkes, Morrison, and Flanagan (2005) stated that high school students need to remain engaged in their education and to explore career goals. Teens that see the connection between education and their future career are less likely to engage in negatively influenced and destructive behaviors.

Students who engage in curriculum that integrates technical and academic skills concurrently through CTE programs are prepared for both college and careers. CTE programs do and will prepare students for a bachelor's degree (Hyslop & Meeder, 2006). Many CTE courses meet university requirements, known as UC a-g requirements (EdSource, 2007b) in California.

There appears to be a different trend occurring in CTE: more students are taking CTE courses to explore different career options than identifying one and concentrating in this area. Concentrating was less common in 2005 (58.3%) than it was in 1982 (72.8%); U.S. Department of Education, 2004). Is this because the objective for enrolling in CTE courses has changed? According to the U.S. Department of Education, there are a variety of other reasons that students enroll in CTE courses. These include: (a) to gain career exposure, (b) to help them select or prepare for a college major, (c) to use as a fallback if college or other career plans fail to materialize, (d) to pursue a leisure interest, and (e) to take classes that present less of an intellectual challenge than do others.

Profile of the CTE Student

Understanding the profile of a CTE student is important, and yet there has been limited information pertaining to socioeconomic status of CTE students and with whom CTE students live (Campbell, 1986; Gaunt, 2005; Levesque & Hudson, 2003). Based on

data that the NCES (2002) collected as baseline data for a nationwide longitudinal study, 57% of high school sophomores reported living with both parents, either biological or adoptive; 22% live with a single-parent; and 17% live with their mother or father or a stepparent. Campbell (1986) found that CTE students are of low socioeconomic level at a higher proportion. According to the NCES (1995) in a study of high school graduates, there were high numbers of students in a lower economic category enrolled in CTE programs. In looking at academic standing, even though CTE programs are thought to be for low-achieving students, students in the top 5% of their class are enrolled in CTE programs (Ries, 2000). There are career academies across the country that also are college preparatory schools. Even though CTE recruits from a wide range of academic performers, students in the highest achievement groups are less likely to be a CTE concentrator (Levesque & Hudson, 2003).

Opportunities for challenging careers and good salaries are changing the demographics of CTE students. Some programs such as tech prep and High Schools that Work are academically rigorous and offer vocational programs that can provide students with a jump start on college and careers (Ries, 2000). Why do students enroll in CTE courses, and who are these students? Educators in individual districts are knowledgeable about their enrollment demographics, but who are the students enrolling in CTE courses? Since decisions are made based on an understanding of whom the students are who are enrolling in CTE programs, this is valuable information. These decisions include what programs to offer and how to market these programs to encourage high school students to enroll. Researchers have found that students of different levels of academic standing participate in CTE (Bowden, 1998; Kerka, 2000; Langland, 1999; Ries, 1997; Vo, 1997).

Levesque and Hudson (2003) found the students in high academic achievement groups were less likely to be in a CTE concentration.

There is limited research indicating that students enrolled in CTE courses are from lower socioeconomic groups. Gaunt conducted a study that looked at the profile of both CTE students and non-CTE students. He found the following: a) CTE students were slightly more disadvantaged than non-CTE students, (b) 39.9% of the survey respondents live with both their mother and father, (c) 19.8% live with their mother and stepfather, (d) 15% live with their mother only, (e) high school students who enrolled in CTE courses were performing lower academically, and (f) high school students who did not enroll in CTE courses were performing at one classification higher than those enrolled in CTE courses (Gaunt, 2005).

Academic Tracking

Teaching academics separate from vocational skills can be traced back to the late 1800s. In 1892, Jones Academy was founded near Hartshorne, Oklahoma in the Choctaw Nation. For the first time, this academy offered agriculture, industrial, and domestic instruction separate from the academic curriculum (Goble, 2004). In 1905, H. F. Rusch, a graduate of the Kansas State Normal School, developed the first effective manual training program in Oklahoma City, Oklahoma—the first of any public high school. During its 1st year of operation, the principal of the school packed the classes with the school's worse students and they were kept away from the rest of the students, meeting in the school's basement. Enrollment in vocational courses, since it operates as a separate curriculum track, separates students according to occupational interests (Rosenbaum, 1976). The

vocational education track provided an option for students who did not want to complete the academic curriculum (Grubb & Lazerson, 1974; Kincheloe, 1999).

A two-track system provided a necessary means to meet the American economic needs of the time. Between 1917 and 1984, federal legislation pertaining to vocational education did not include the integration of academics with vocational programs. Legislation pertaining to vocational education enacted in 1917, created a system of tracking students either into a college track or vocational track and for the next 90 years perpetuated the need to create a workforce having the technical skills in agriculture, business, home economics, mechanical and trade, and industrial education to maintain a standard of living and support the American economy (Gordon, 2008; Rosenbaum, 1980).

Tracking was still evident when the Perkins Act was signed into law in 1963. The Perkins Act initially defined vocational education as occupational programs requiring less than a baccalaureate degree (Silverberg, Warner, Fong, & Goodwin, 2002). Although federal legislation passed in 1998 eliminated the restrictions that CTE programs could not prepare students for a bachelor's degree, the perception of vocational education for non-college-bound students continued (Hyslop & Meeder, 2006).

According to Tyack, tracking has resulted in offering vocational courses to students of color to prepare them for jobs historically held by people of color. This was a way to prevent people of color from gaining status in society (Tyack, 1974). Oakes (2005) found that students at all-white schools were likely to be offered vocational courses such as marine technology and aviation. Schools serving students of color were more likely to offer courses in construction, housekeeping, and food services. It is

believed by some that vocational education has been misused since the Civil War as a way to perpetuate second-class citizenship status among minorities in the United States (Grubb & Lazerson, 1974; Kincheloe, 1999). "Vocational education along with academic tracking plays a part in restricting the access minority students have to future opportunities" (Oakes, 2005, p.170).

According to Brown (2003), "Parents, students and employers still hold stereotypes about career and technical education, yet there has been an evolution taking place since the inception of CTE in the United States one hundred years ago" (p. 1). According to Wonacott (2003):

> In the last hundred years, vocational education has evolved from its original inception in response to changes in society, technology, education and education philosophy, and the workplace. At the dawn of the 21st century, vocational, or career and technical education goes far beyond the specific, technical knowledge and skills required for a particular occupation; today, vocational education encompasses not only technical preparation but also sound academic foundations, higher-order thinking skills, and personal qualities needed for success in the workplace. (p. 2)

It was not until the Carl D. Perkins Vocational Technical Act of 1984 that a change to include preparing students for both work and college was seen.

Even after A Nation at Risk was published in 1983 that called for higher academic standards, students enrolled in vocational programs were still not participating in academic courses at the same rate as students enrolled in college prep courses (Silverberg et al., 2004). Even though there have been policy efforts made to bridge the gap between academic and workplace education, the two remain separate.

There have been several studies focusing on vocational tracking that conclude that criticisms of tracking should not be applied to vocational education because students select vocational courses. Research also shows that because of wage and employment

benefits to students who complete vocational courses, these courses do not have a negative effect on students (Rosenbaum, 1980; Wirt et al., 2001).

High School Dropout Rate

Fewer than 5% of Americans finished high school in 1890 (Kantor & Tyack, 1982). In 1900, only 8% of youth attended and graduated from high school (Tyack & Cuban, 1995). In 1980, 71% of American youth attended and graduated from high school. Throughout history, it has been difficult to track both the high school dropout rate and graduation rate because there has been no standardized method to record a student's entrance in to kindergarten and exit from high school (National Governors Association, 2007). States have not had a system to track each student. In 2005, all United States governors acknowledged that states did not have a standardized system for tracking students and signed the Graduation Counts Compact (National Governors Association, 2006). By signing the compact, the governors pledged to gather accurate data using a national formula based on research. The compact also includes common standards for reporting dropout data. California set 2010 as its target date to adhere to the standards.

A review of the high school dropout statistics shows that the percentage of students graduating from high school or dropping out of high school differs depending on the definition that is used. For example, according to Mishel and Roy, the number of students graduating from high school has been increasing and the number of dropouts decreasing for the past 40 years. They found that graduation rates are exaggerated when calculated using only enrollment and diploma data (Mishel & Roy, 2006). This study found that when the graduation rate is calculated based on students earning a regular diploma, the rate is between 80% and 83% nationally. In a study performed by the

National Education Longitudinal Study, the graduation rate nationally was at 82%. The national graduation rate from high school with a regular diploma for Blacks, according to the National Education Longitudinal Study, is 78% and for Hispanics 74% (as cited in Mishel & Roy, 2006).

The NCES (2006) defined a dropout as someone, aged sixteen to twenty-four who was not enrolled in a high school program and had not received a high school diploma or obtained an equivalency certificate. NCES reports that the national dropout rate did decrease from 14.6% in 1972 to 9.9% in 2003. The California Department of Education (2009b) has used the NCES definition to determine graduation rates.

Using this formula, in 2007–2008, the California statewide graduation rate was 68.3% and the Los Angeles County graduation rate was 77.8%. In the region where this study will be conducted, graduation rates for 2007–2008 for seven school districts vary between 66.8% and 99.8%, as reported by the CDE Demographics Office (California Department of Education, 2009a). Four of the seven districts are in the 90% range; two are in the 80% range; and one at 66.8%. The average graduation rate for the districts in this region in 2007–2008 was 77.03%.

The Center for Evaluation and Education Policy (2005) administers the High School Survey of Student Engagement every year. It was first administered in 2004. The survey results provide educators with data pertaining to student engagement, whether students are developing the learning habits and study skills necessary to be successful in postsecondary education, and to assist schools in identifying the strategies that are successful for retaining students and keeping them engaged in learning. Of the students surveyed in 2006, 22% stated that they had thought about dropping out of high school

(Yazzie-Mintz, 2007). The top three reasons they stated were (a) 73% stated they did not like school, (b) 61% stated they did not like the teachers, and (c) 60% stated that they did not see any value in assigned work.

Research on CTE completers, although limited, concludes that CTE completers earn more than academic-general concentrators for both short and medium-term earnings (Bishop & Mane, 2004; Kemple & Scott-Clyton, 2004; Silverberg et al., 2004). Research also indicates that students enrolled in certain vocational educational programs are associated with staying in school and not dropping out (Kemple & Scott-Clyton, 2004) and having a higher attendance rate (Bishop & Mane, 2004). A student who drops out of high school earns $304,444 less in lifetime earnings when compared with a student who completes high school, and earns $1,416,476 less when compared to a student who completes college (California State Board of Education, 2007). High school dropouts have a greater chance of using public assistance, being unemployed, and serving time in prison (Haberman, 1999; National Governors Association, 2006).

College Completion Rate

In the later part of the 20th century, the belief that all children receive a college-prep education was the norm. High school education has evolved from college prep for the privileged to a focus on college prep for all (Tyack & Cuban, 1995). Zapf, Spradlin, and Plucker (2006) report that of all high school graduates, 31% felt they were ready for college but needed to enroll in remedial courses in college. In 1998, 55% of high school seniors reported that they were going to college and 23% stated that they would probably go to college (Wirt et al., 2001). According to NCES (2002) only 50% of students complete their bachelor's degree within 5 years and 40% never complete a degree. It

appears that high school students might believe that they are going to college, but in reality there is a much lower number that attends and even less that complete a degree. A 2006 study by DeLuca, Plank, and Estacion, found that students who enrolled in more CTE courses in high school were associated with lower rates of college attendance. Even so, there has been an increase of 33% from 1982 to 1998 in the number of students earning occupational certificates and completing occupationally oriented AA and BA degrees (DeLuca et al., 2006).

Between 1980 and 2006, there was a change in vocational education policy from preparing students for entry-level positions to include academics and postsecondary enrollment. According to Silverberg et al. (2004), in the past, only a small percentage of students enrolled in vocational studies enrolled in college, and now more than half of all vocational students enroll in postsecondary education. Studies show that participation in vocational education does not impact the likelihood of attending college. There are many vocational students who participate in tech prep programs and who experience a high success rate in college. Kerka (2000) believes that CTE can assist in helping students identify what they want to pursue in college before students find themselves in a college environment not understanding the connection between a college education and getting a job.

High School Reform

Even after years of reform efforts at the beginning of the 20th century, schools were still not serving the needs of immigrant and poor students, as evidenced by educators (Tyack & Cuban, 1995). According to Cotton, in order to retain and engage high school students, educators need to offer a variety of programs to meet their needs (as

cited in Northwest Regional Educational Lab, 1991). The publication titled *A Nation at Risk: The Imperative for Educational Reform* was an open letter from a blue-ribbon commission appointed by the Regan administration in 1983, in response to the 1980–1982 recession and fear of global competition with Japan. Its task was to look at the educational system in the United States. In this report, serious problems with American schools were exposed, one of which was lack of rigor in the high school curriculum, assessments, and college admissions requirements. The response to this report was that 34 states instituted more rigorous academic high school graduation requirements and throughout the 1980s, almost every state implemented reform to their educational systems (Hawley, 1988; McCarthy, 1990). Even with greater academic requirements, students' academic achievement did not show signs of progress.

In 1989, President George H. W. Bush held an education summit for the nation's governors. The outcome of this summit was that national education standards or goals would be established (Wirt & Kirst, 2005). In 1990, the National Governors Association, along with President Bush, stated that by 2000, all children would meet these goals. The Goals 2000: Educate America Act was signed into law on March 31, 1994. The goal of this act was to allocate resources that both states and communities could access in order to provide programs for students to reach their full potential. The underlying premise of Goals 2000 espoused that when more is expected of students, they will achieve at a higher level. Two of the goals stated in the act were: (a) the high school graduation rate will increase to at least 90% ; and (b) every school in America will ensure that all students learn to use their minds well, so that they may be prepared for responsible

citizenship, further learning, and productive employment in our nation's modern economy (United States Department of Education. 1998).

Goals 2000 also created a National Skill Standards Board to identify broad occupational clusters and create standards, assessment, and certification for each cluster. The Schools to Work Opportunities Act of 1994 required school-to-work plans developed by states to align with the educational reforms each state was planning with Goals 2000. Both of these acts were designed to encourage schools to incorporate restructuring, rescheduling, and rethinking educational practices. These reforms would result in changing the way teachers teach and students learn (United States Department of Education. 1998).

Little progress had been made since 2004, and although federal expenditure on K-12 education had more than tripled in 13 years, there was no sign of measurable improvement in students' academic achievement (Wirt & Kirst, 2005). No Child Left Behind was announced as the next educational slogan 3 days after George W. Bush became president. The No Child Left Behind Act was signed into law by President Bush in 2002. No Child Left Behind enacted accountability for education results, use of best education practices, state's autonomy over assessment measures, and giving parental choice if their children are enrolled in a failing school (U.S. Department of Education, 2002).

High school minimum competency tests were implemented by several states in the late 1970s and early 1980s. In some states, these evolved into high school exit exams. By 2000, California developed a high school exit exam following the passage of Senate Bill 2X. High school exit exams were a response to an outcry from universities and the

business community that high school students graduated without having the necessary skills, and they were not motivated to learn. The high school exit exam was also a response to the standards-based instruction movement (EdSource, 2007a). The graduating class of 2006 was the first class required to take the high school exit exam in California.

Marzano, Kendall, and Cicchinelli (1999) found that the American adult public believes that there are five subject areas that are necessary in school curriculum: health, work skills, language arts, technology, and mathematics. All of the standards within the work skills subject category were rated as definitely necessary. These employability skills include standards about working with others, working with tools and technology, work ethics, and managing money. The study also concluded that education needs to have as its main goal an instructional program that prepares students for meaningful employment. There are high school CTE programs in California with which students are graduating at a higher rate, have a higher passage rate on the high school exit exam, earn higher grades, and are as likely to pursue a postsecondary education as their counterparts. Studies also show that the highest risk students benefit the most from participating in CTE programs (Little Hoover Commission, 2007).

Bill and Melinda Gates decided to fund American high school change initiatives through their foundation. According to Melinda Gates, this decision was made because high schools "looked so intractable and no one was touching high schools" (as cited in Sellers, 2008, p. 2). The Gates thought that if they could get 1,000 high schools established, then other schools would follow suit. According to Melinda Gates, what they found was that once the schools were up and running, the system would pull them down. They found that either leadership or community engagement was lacking in order to

maintain the reform efforts. The expectation was that after 3 years of funding, the programs implemented needed to sustain themselves.

One way that high schools are addressing the need to change is to implement career clusters in small learning communities. Career Clusters provide students with skills necessary to be successful in post-secondary education and employment pursuits. Career clusters provide a foundation for CTE programs to focus on the needs of students, create small learning communities, and integrate academics into a specific career area. Research has shown that small learning communities have decreased the drop-out rate, and improved attendance and work performance (Zapf et al., 2006).

Two surveys of high school students support this. One conducted by the National Governors Association (2007) and another survey conducted by the Public Agenda Study (EdSource, 2007b). Of the students who had dropped out or were potential dropouts, 66% stated that if they had received more personal attention and guidance, they would have been more likely to stay in school.

Another reform that has been implemented as an alternative to the traditional high school is the middle college high school (Zapf et al., 2006). Students enrolled in a middle college, located on a college campus, can earn college credit at the same time they are completing high school graduation requirements. This alternative has been shown to decrease the number of students who might have dropped out as well as improving writing skills and college attendance.

According to Kazis (2005), "There is no way to significantly improve high schools outcomes without tackling secondary career and technical education" (p. 2). High schools must be reformed to prepare students for a workforce that has changed drastically

in the percentage of skilled workers needed—65% in 1997, increased from 20% in 1950 (Meeder, 2006). Bill Gates (2005) stated:

> American high schools are obsolete. By obsolete, I don't just mean that our high schools are broken, flawed, and under-funded, though a case could be made for every one of those points. By obsolete, I mean that our high schools, even when they are working exactly as designed, cannot teach our kids what they need to know today. Training the workforce of tomorrow with high schools of today is like trying to teach kids about today's computers on a 50-year-old mainframe. It's the wrong tool for the times. (p. 1)

Americans have many expectations for their high schools. These expectations include preparation for college, opportunities to participate in athletics, language acquisition courses, and technical skills. Evidence suggests that students, school districts, and individual states believe that the primary purpose of high schools is to prepare students for college (Balfanz and Herzog, 2005). Tyack and Cuban (1995) state that high schools are also expected to deal with social, political, and economic problems. High school spans a continuum from high performing to grossly inadequate. This has occurred as a result of several factors: "economic, demographic, and attitudinal" (p. 48).

Thirty high schools have been labeled New American High Schools by the U.S. Department of Education. They have received this designation because they are educating all students by expecting that students meet high standards, prepare for postsecondary education, and learn and explore careers (Wolff & Copa, 2003). Relevance is critical to high school reform and CTE provides a vehicle for making the educational process relevant for high school students (Castellano et al., 2003). When at-risk students did not receive information about how to link school and careers, they became disengaged (Bennett, 2001).

There is a college for all focus in the educational system. Yet most jobs do not

require a college degree. According to the Bureau of Labor Statistics, of the total number of job openings between 2000 and 2010, 70% will require no postsecondary education, 9% will require an associate's degree or postsecondary vocational certification, and 21%will require a bachelor's degree or higher (as cited in Cohen & Besharov, 2002).

Factors That Influence

Perception of Career Technical Education

There have been many state and federal legislative initiatives that have impacted both high school reform and CTE in order to increase high school student graduation rates and prepare students for careers. When legislators support CTE, a positive message is sent to the public and, in turn, can influence the perception that the public has of CTE. There are other factors that influence public perception of CTE as well. One of these factors might be how vocational education started and evolved throughout history. The passage of the Smith Hughes Act in 1917 established vocational education as a curriculum track and set in motion the perception that vocational education prepares students for entry-level careers that did not require academic or postsecondary preparation, thereby narrowing curriculum and career options (Gordon, 2008).

In 2000, the National Dissemination Center for Career and Technical Education surveyed CTE administrators, teachers, representatives of the business and industrial community, and other parties interested in CTE. One of the major issues identified by respondents was the need to improve the image of CTE. This was not something new. The role of CTE is often misunderstood and people often view CTE programs as a dumping ground. It is unfortunate that the media perpetuates this misunderstanding (as cited in Lewis, 2001).

Many felt that a change in name from vocational education to CTE would help in changing this perception. In 1998, the American Vocational Association proposed that a change in name to Association for Career Technical Education would have a direct impact on changing the image of CTE.

Current perceptions of CTE continue to be based on past perceptions among parents, students, and employers who still hold certain stereotypes; CTE is for students who are not going to college and who will be pursuing traditional blue-collar jobs. The perception of individuals who were enrolled in high school in the 1960s, 1970s, and early 1980s is that of the old vocational system (Elliot & Deimler, 2007). Not only the public but also parents are of the opinion that vocational education is the path for non college bound students and has a narrow focus and limited opportunities (Ries, 1997; Vo, 1997). Cohen and Besharov (2002) report that the general perception of CTE programs is that the quality of education is poor and the students who enroll in CTE programs are the worst students, which, in turn, directly affects enrollment. Students and the media are getting the message that CTE has changed, but parents who have their hearts set on having their children attend college might be the hardest to convince (Kaggwa, 2000; Langland, 1999).

A study conducted by O'Neill (1985) found that high school teachers believe that students attending a career technical center are not accepted by their peers. He also found that directors of career technical centers believe that it is hard to recruit and enroll students because of the negative attitudes held by teachers. Rossetti (1990) found that the poor image of CTE has a negative impact on enrollment. Rossetti suggests that it is up to stakeholders to change the way people perceive CTE. Adults providing guidance to

students present college as the only choice for some students and vocational training for high school students whom they perceive as non college bound. The information communicated by adults who have preconceived ideas regarding CTE can and do influence a high school student's perception of CTE.

If the perception of CTE influences enrollment in programs, then it is important to understand how high school students perceive CTE. A study conducted by Gaunt (2005) found that 80% of the high school seniors responding to the survey believed that the CTE center offered programs for all students, regardless of ability level. Only 40% believe that the center offered programs for students who have difficulty in their academic courses. In order to change the image of CTE, the myth of college for all must be addressed (Cohen & Besharov, 2002).

Influencing Factors on CTE Enrollment

Lam (1982) studied the factors that influenced high school students in their career decisions. Lam looked at intrapersonal reasons such as motivation, career maturity, and value systems as well as immediate external reasons such as how far a student had to travel to the career center and CTE courses offered away from the home campus, thereby separating students from their friends. Career maturity was first studied by Super (1955). Career maturity, as defined by Super, includes behaviors that assist in identifying, choosing, planning, and executing career goals. According to Herr (1977), students who are forced to make a decision too soon lack the maturity to make that decision. Students are unable to make those types of decisions until they are seniors in high school. Rossetti (1990) also studied factors that influence students' decisions not to enroll in a vocational program. Rossetti made several recommendations that include: (a) more exposure to

career guidance, (b) more CTE offerings available, and (c) tours of area career technical center should be conducted for 10th grade students.

Legislation passed in California in 2006, Assembly Bill 2448, requires students in 9th grade who enroll in ROC/P courses to enroll in a 4-year career pathway, and both 9th and 10th grade students are required to have a 4-year career plan. Cohen and Besharov (2002) believe that school systems require the development of a career plan for all students by the 10th grade. The Career Education Act of 1978 required that states establish a comprehensive system of career development as students progressed through K-12. This act also encouraged the involvement of school counselors to work with students in making decisions about career choices.

Student motivation can definitely be an influence when deciding to enroll in CTE programs. Jackson (2002) conducted a qualitative study of why students choose to enroll in CTE programs. Jackson found that in some cases, the deciding factor was when the students matched their interests with the program. Another factor was that students wanted to get a head start. They had already identified their postsecondary career and wanted to earn high school and college credits before graduating from high school. Having the opportunity to explore career options is also helpful to students in deciding what career to pursue.

People also influence students' decisions to enroll in CTE programs. Research has indicated that parents, siblings, high school counselors, high school principals, high school teachers, and friends have influenced high school students enrolling in CTE courses (Beukes, 1986; Cohen & Besharov, 2002; Gilbertson, 1995; Herr, 1987; Jackson, 2002; Kerka, 2000; Lejeune, 1977; Reynolds, 1976; Ries, 1997; Rossetti, 1990; Vo,

1997). Gaunt's (2005) study looked at the people who influenced students in their decisions to enroll in CTE courses. Gilbertson (1995) and Jackson (2002) focused on the influence that parents have on their children enrolling in CTE courses. Research has shown that parents do influence their children's decision to enroll in CTE programs. Rossetti (1991) found that mothers and female guardians influenced children the most. Jackson (2002) found that successful students had a parent or parents who supported them.

The perception that parents have of CTE will, in fact, influence their children, although Gilbertson (1995) found that parents of students enrolled in CTE courses had a positive attitude of CTE programs and parents of students not enrolled in CTE programs did not view CTE programs in a positive light. Herr (1987) found that parents believe that they have more influence then they believe, and parents and students don't agree on the amount of influence that parents have. Both Ries (1997) and Vo (1997) found that parents consistently regard vocational education as the program for non college bound students. This can have a direct impact when parent signatures are required for students to enroll in CTE courses. According to Kerka (2000), changing the parent's perception of CTE might be the most difficult task. Gray and Herr (1997) state that parents have not been convinced CTE programs are for all students and that it is up to the CTE community to dispel the myth that CTE programs are for students who are not going to college. According to Cohen and Besharov (2002), most parents want their children to go to college, which rules out enrolling in CTE courses.

Friends also influence students' decisions to enroll in CTE courses. Rossetti (1990) found that friends (44%) are second to mother-female guardian's influence (46%).

Beukes (1986) and Reynolds (1976) found that friends had no influence on decisions regarding enrolling in CTE courses. Dube (1987) found that friends (89%) discouraged students from enrolling in CTE programs (as cited in Rossetti, 1989).

Research regarding teachers' influence has varied results. Beukes (1986) and Dube (1987) found that teachers did not influence enrollment in CTE programs. Other researchers found that students asked teachers for their advice before enrolling in CTE programs (Herr, 1987; Lejeune, 1977; Rossetti, 1989).

School counselors do have some influence with students in making decisions (Herr, 1987; Rossetti, 1990). Huss and Banks (2001) found that school counselors have a great deal of influence with course selection in general. Jackson (2002) found that when counselors took a special interest in a student's enrollment in CTE, they were influential in the student's decision. Research conducted by Reynolds (1976) and Beukes (1986) found that counselors had little influence over a student's decision. According to the Career Institute for Education and Workforce Development, half of high school graduates in 2002 reported that they did not receive career guidance services from school guidance counselors (as cited in Hurley & Thorpe, 2002). Huss and Banks (2001) studied the impact that counselors have on high school students enrolling in CTE courses. Hurley and Thorpe (2002) surveyed 809 high school juniors and seniors and concluded that students perceive a lack of career guidance from their schools and counselors. Only a few counselors participating in a nationwide survey conducted in the mid-1980s reported that they believed that career counseling was a high priority, and yet only a few reported that they spent time on career planning (Krei & Rosenbaum, 2001). Other factors that might influence a student's decision to enroll in CTE programs include poor advice from

guidance counselors (Rosenbaum, 2001) and lower expectations expressed by their teachers (Rosenbaum, 2001; Silverberg et al., 2004). Studies conducted by Gehrt (1990) and Jackson (2002) found that CTE personnel had an influence on student decisions with regard to CTE.

Factors that might influence a student's decision include the distance a student has to travel to the center and attending classes away from the home, school, and friends (Lam, 1982). Lam studied additional school factors that impact student decision making. Specific research has not been conducted on the impact of high school students earning college credit for CTE courses. However, Lotto (1985) believes that this will have a positive impact on CTE enrolment. Gaunt (2005) has provided data on other factors that influence a student.

Economic Returns From Education

Preparing Workers for the 21st Century

The United States is again concerned about global competition at the beginning of the 21st century (Friedman, 2005). CTE includes not only technical preparation, but also a sound academic foundation, higher-order thinking skills, and personal qualities needed for success in the workplace. Daggett (2003) believes the belief parents have, that the purpose and outcome of school is to prepare students for higher education, is not aligned with the reality of the 21st century. According to Daggett (2007), the workplace has changed and in order to be prepared, students need not only strong academic skills, but also skills in solving problems. For the majority of jobs in America, these are the minimum requirements. CTE programs must prepare students for these jobs by teaching high-level academic skills to students. Americans believe that students need high

academic standards to get into college and it is not necessary for students to achieve high academic standards for jobs that don't require a college degree.

Bishop and Mane (2004) stated that if schools withdrew from the occupational training market, school leavers would find it more difficult to get work and have to accept lower wage rates. Employers would hire less-skilled workers and the quality of the service would deteriorate, substitute machines for people, or arrange for workers in other countries to do the work. Bishop and Mane (2004) also found that job skills are becoming obsolescent more quickly than in the past. Bishop argues that those who believe that there is less of a need for occupational skills have it backward. At the same rate that job skills become obsolete, new skills need to be identified and learned. If this is the case, then there is a greater need for occupational training not a reduction. Job skills that have a high rate of obsolescence mean that the payoff period is short, but this also means that the number of workers with the new skills is small. Graduates of training programs who have learned the latest skills have something that is in short supply, and the labor market responds to this by paying a higher premium for the skill. Bishop and Mane (2004) concludes that this is yet another reason to offer school-based occupational training.

An individual's success on the job after 1 year of employment, based on an assessment of a worker's academic and leadership ability, had no relationship with positive overall job performance ratings. Relative occupational skill, learning ability, work habits, and people skills did have a significant positive relationship with relative positive productivity ratings after 1 year on the job (Bishop & Mane, 2005). In looking at wage rates, the same study showed that workers thought to have much better occupational skills started with 12% higher wages and made 14% higher wages or more

after 1 year on the job. It was found that academic skills had no significant effect on wage rates.

Dunnette's (1972) study, and Vineberg and Joyner's (1980) study show that almost all job productivity is the result of social skills such as good work habits, people skills, and cognitive skills specific to the job and not from reading and writing skills. Reading and writing contribute to helping the individual learn the occupation and job-specific skills, but were not identified as key factors in getting or keeping a job (Bishop, 1995a).

Workers in the 21st century will need more than academic and technical skills. Students and adults need to learn life-work designing and building skills in order to become healthy, self-reliant, and productive citizens. This has been defined by Gysbers and Henderson (2000) as "life career development" (p. 49) and is defined as "self-development over a person's life span through the integration of the roles, settings, and events in a person's life" (p. 49). To be successful requires individuals to have life-work skills so that they know how to locate and process information and to make good choices when they encounter a transition point during their life journeys (Jarvis, 2000). In fact, Americans stay fewer years in a job than in the past, making it more difficult for employers to provide training. Workers who stay with a company fewer than 25 months rose from 28% in 1968 to 40% in 1978, and this percentage continues to be high (Bishop, 1995a).

Stevens (1973) suggests that students need to learn to look ahead and look around before they leave school to develop competence and skill in the following five domains: (a) self-knowledge, (b) occupational information, (c) decision making, (d) planning, and (e) problem solving. To plan ahead, students need to know what options are available in careers and education. A good example of this can be seen by the increasing number of college graduates who are enrolling in associate degree or certificate programs in technical fields to find a job, since most jobs do not require a college degree (Cohen & Besharov, 2002). According to Dolin (2001), workers without a high school diploma earn approximately $852,000 throughout a 40-year career. Those individuals with an associate's degree earn $672,000 more, and a bachelor's degree can increase earnings more than $1.9 million throughout a 40-year period (as cited in Kuder, 2009).

Marketing

As the world of work changes, educational programs preparing students for these jobs need to change as well. As CTE programs change, it is critical that the public be educated about these changes. According to Tuttle (1987), in order to improve the image of CTE, strategic plans need to be developed at every level. With increased accountability for student academic performance, it is essential that CTE programs track data and report student performance outcomes to the public. This is one way to change the perception of CTE, which is important during a time of declining enrollment in CTE programs (Kibler, 1992).

Recruitment of students is critical for CTE centers that depend on students enrolling in courses outside of the school day. Jackson (2002) reported that most students learned about CTE courses they were enrolled in through recruitment activities at their

high schools. Other effective strategies include tours, brochures, Web sites, outreach efforts by CTE staff, and relationships with industry and business communities. According to Ries (1999), student-produced videos are also used by CTE educators.

Kibler (1992) suggests that teachers can play a key role in marketing their programs by setting high standards, keeping up with changes in the industry, and making sure that the advisory committee is composed of individuals who are working in the field and are current with industry needs. For the past 2 decades, the marketing of CTE programs has been discussed as key not only to the survival of CTE, but to changing the perception of CTE. Daggett (2003) acknowledged that even though there have been numerous success stories during the past several years resulting from reform efforts, there is more to be done. Although research has not been conducted on the subject of marketing CTE programs, marketing materials such as brochures, visits, and tours were identified as having a likely impact on students deciding to enroll in CTE programs (Husain, 1999; Jackson, 2002; Ries, 1999).

Chapter 3: Research Methodology

Restatement of the Problem

One of the expectations of our educational system is to prepare students for employment, and yet approximately 20% of high school students in the United States do not graduate from high school (Mishel & Roy, 2006). The CDE (2009b) uses the NCES definition to determine graduation rates. This graduation rate formula is, determined by the number of graduates (year 4) divided by the number of graduates (year 4) + grade 9 dropouts (year 1) + grade 10 dropouts (year 2) + grade 11 dropouts (year 3) + grade 12 dropouts (year 4). Using this formula in 2007–2008, the California statewide graduation rate was 79.5%. The Los Angeles County graduation rate was 74.7%. In the region where this study was conducted, the graduation rates for 2007–2008 for seven school districts vary between 66.8% and 99.8%, as reported by the CDE Demographics Office. Four of the seven districts are in the 90% range; two are in the 80% range; and one is at 66.8%. The average graduation rate for the districts in this region in 2007–2008 was 77.03%.

Information pertaining to students enrolled in CTE programs offered on the high school campuses where the participants in this study attend school is reported in the school's SARC, which each school is required to publish annually. Of the 14 schools participating in this study, 11 also publish their SARC on their Web sites. Information reported in the SARC includes the percentage of high school students completing CTE programs and earning a high school diploma, CTE courses offered on the campus, and whether the high school offers a career academy program. The percentage of high school students completing CTE programs and earning high school diplomas ranges from 4.4% to 100%, with an average among participating high schools at 77.82%. Unfortunately, it

is not clear how each district-school has defined a CTE program, whether as a sequence of courses or only one course. Only 1 of the participating high schools stated that it offers a career academy program and listed the career pathways that are available to students. Another high school listed the CTE courses that are approved by the UC system as meeting the a-g entrance requirements. Of the participating high schools, 7 specifically refer to CTE as work preparation programs, separate from college prep programs (California Department of Education, 2009a).

Studies have shown that students who enroll in CTE courses are more likely to graduate from high school, acquire employability skills, and increase their earning potential. Yet, there has been a decrease (33%) of students participating in CTE from 1987 to 2005 (Little Hoover Commission, 2007). One reason for this might be the perception that people have of CTE. According to Cohen and Besharov (2002), many people have the perception that CTE is for the worst students, and this, in turn, has an impact on enrollment. According to a study conducted by Gaunt (2005), both CTE and non-CTE high school students feel CTE is more directed at students who go immediately into the workforce after high school.

Purpose

The purpose of this study was to learn about the demographic profile of South Bay–area high school CTE students, their perceptions related to CTE, the people and other factors that influence them to enroll in CTE courses, and to solicit their opinions on which communication strategies are most appealing to high school students to present the advantages of enrolling in a CTE courses.

Research Questions

1. What is the demographic profile of high school students enrolled in CTE programs at the regional occupational center located in the South Bay area of Los Angeles County?
2. What are the perceptions of South Bay–area high school CTE students regarding CTE?
3. Who are the people who have influenced South Bay–area high school CTE students in their decisions about enrolling in CTE?
4. What other factors, if any, have influenced South Bay–area high school CTE students in their decisions about enrolling in CTE?
5. What communication strategies do South Bay high school students see as accurately presenting the advantages of enrolling in CTE courses?

Study Design

The design of the study is quantitative and descriptive in nature and utilizes survey methodology. The study is descriptive in that the outcome will be an assessment of the nature of existing conditions (McMillan & Schumacher, 2006). A survey instrument consisting of 48 questions was administered to approximately 160 high school students currently enrolled in one or more CTE courses at a CTE center in the South Bay area of Los Angeles. A purposeful sample was used in this study. The sample included high school students (Grades 10–12) enrolled in CTE courses conducted at 3:45 p.m.–6:45 p.m. and 6:45 p.m.–9:45 p.m. at a CTE center in the South Bay area of Los Angeles, California.

A survey was chosen for this study to collect information about one or more groups of people, including their characteristics, opinions, attitudes, or previous experiences (Leedy & Ormrod, 2005). The process is simple in design; having participants answer a series of questions, the researcher summarizes the responses using percentages. Percentages are interpreted based on statistical indexes, and then conclude with inferences about a particular population. The use of a rating scale is used on the survey instrument. Rensis Likert developed rating scales in the 1930s to assess individuals' attitudes. These rating scales are referred to as Likert scales. Surveys can be an efficient and accurate way of collecting information about a population. Surveys allow for uniformity in the questions asked and the method of collecting responses. This results in the ability of the researcher to compare and contrast answers and to draw conclusions.

A primary disadvantage of surveys, particularly as it pertains to this study focus, is the inability to probe further into particular topics. Surveys are inflexible in design, meaning that both the survey instrument and the process for collecting data remain constant throughout the process of collecting data. A survey was selected for this study in order to collect data from a purposeful sample population of 160 high school students (Grades 10, 11, and 12) attending courses conducted at 3:45 p.m.–6:45 p.m. and 6:45 p.m.–9:45 p.m. at a CTE center in the South Bay area of Los Angeles, California.

Human Subjects

The subjects who participated in this study made up a purposeful sample of 10^{th}, 11^{th}, and 12^{th} grade students enrolled in CTE courses conducted at 3:45 p.m.–6:45 p.m. and 6:45 p.m.–9:45 p.m. at a CTE center in the South Bay area of Los Angeles, California during the fall 2009 semester. The subjects selected represented a purposeful

sample because they had enrolled in and attended CTE courses conducted at 3:45 p.m.–6:45 p.m. and 6:45 p.m.–9:45 p.m. at a CTE center located in the South Bay region of Los Angeles.

A purposeful sample for this study was chosen because the researcher determined that the students selected had the needed characteristics and would be the best suited to respond to the research questions (McMillan & Schumacher, 2006). These characteristics are that the students enrolled in and attended CTE courses conducted at 3:45 p.m.–6:45 p.m. and 6:45 p.m.–9:45 p.m. at a CTE center located in the South Bay region of Los Angeles.

Students were given a letter to take home explaining the purpose of the research study, an agreement that the student was asked to sign, and a parent consent form. Students who returned the parent consent form were asked to complete an online survey. Participation in the survey was voluntary. The survey sample was 160 students, representing more than 50% of the high school students enrolled in courses conducted at 3:45 p.m.–6:45 p.m. and 6:45 p.m.–9:45 p.m. at a CTE center located in the South Bay region of Los Angeles. The guidelines presented by Gay and Airasian (2003, p.113) state, "If the population size is around 500, 50% of the population should be sampled".

Human Subjects Protection

The study was conducted in accordance with regulations and guidelines established by Pepperdine University's Institutional Review Board. The study also complied with the U.S. Code of Federal Regulations, DHHS, Title 45 Part 46, titles protection of human subjects, and Parts 160 and 16 (Pepperdine University, 2005).

The researcher applied to the Institutional Review Board for an expedited review process. This process was selected because the study presented minimal risk to participants. These minimal risks included fatigue, boredom, and apathy. Students completing the survey had attended high school all day and completed the survey after 3:45 p.m. The researcher provided water and a snack for the students prior to having them complete the survey. Another risk was that the students might become bored during the process of completing the survey. Students completed the survey online, which provided a more interesting method for completion of the survey. In addition, students might have been apathetic toward completing the survey. The researcher provided information to the students about the purpose of the research project and how the information would be used to improve CTE programs for high school students. The research was limited to a small group of students and a survey instrument was utilized (Pepperdine University, 2005). A completed application was submitted to the Pepperdine Institutional Review Board and a letter of approval was sought.

The superintendent of the Southern California ROC was approached for permission to administer the survey to students (see Appendix A). The researcher asked parents of potential participants for signed consent prior to administering the survey.

Students participating in this study did so voluntarily and they had the opportunity to discontinue their participation at any time during the study. The researcher followed all federal and professional standards for conducting research with human subjects.

The identity of the students participating in the study is known to the researcher only because they were required to have a signed parent consent form. Students were not asked to submit their name or any identification when completing the online survey. The

survey instrument was not coded in any way in order to prevent the instrument from being associated with the individual who completed the survey. Results of the survey questions are reported for the group as a whole. Individual responses to the survey questions are not reported.

The students who chose to participate completed the survey in a designated computer lab at the center. There was no identification used on the survey instrument to identify the student who completed the survey. All data collected were treated in confidence and ethical standards were maintained. All data were kept in a secure, locked file cabinet until the study was completed. The data will be destroyed after 3 years.

Instrumentation

The survey instrument that was used in this study was adapted from a study conducted by Gaunt (2005; see Appendix B). Permission was obtained by the researcher from David Gaunt to modify and use the survey instrument (see Appendix C). The survey instrument was modified to include criteria specific to school districts in California (see Appendix D). An additional section was added to the survey that included questions pertaining to communication strategies that could be used to communicate the advantages of CTE. The survey also asked respondents to identify factors that influenced their decisions to enroll in CTE courses.

The survey consisted of five sections containing 48 questions. The five sections, representing the nature of the questions, are as follows: Demographic Information, Perceptions of CTE, People Who Influence CTE Enrollment, Other Factors That Influence CTE enrollment, and What Are The Most Effective Communication Strategies for Informing High School Students About CTE?

The first section, titled Part 1: Demographic Information containing 13 questions, collected information about the student. This information was used to provide a demographic profile of the students completing the survey.

The second section contains six questions. These six questions asked students about who CTE programs are designed to serve. The responses to these questions provide information about the students' perception of CTE programs and who CTE programs are designed to serve.

The third section contains 13 questions pertaining to the people who encouraged students to enroll in CTE courses.

The fourth section contains seven questions asking students to what extent do other factors influence their enrollment in CTE courses.

The fifth section contains nine questions and asks students what they consider are the most effective communication strategies to present accurately the advantages of enrolling in a CTE courses.

The content of each survey question was intended to answer this study's research questions. Table 1 illustrates the alignment among the study research questions, survey questions, and supporting literature sources.

Table 1

Survey and Research Questions

Research Question	Survey Question(s)	Literature Sources
What is the demographic profile of high school students' enrolled in CTE	Part I, 1–12	Bishop & Mane (2003) Campbell (1986) DeLuca, Plank, & Estacion (2006) Gaunt (2005) Grubb & Lazerson (1974)

(*table continues*)

Research Question	Survey Question(s)	Literature Sources
programs at the ROC located in the South Bay area of Los Angeles County?		Hyslop & Meeder (2006) Kemple & Scott-Clyton (2004) Kerka (2000) Kincheloe (1999) Lam (1982) Landsberg (2006) Levesque & Hudson (2003) NCES (2002) NCES (2006) Ries (1997) Ries (2000) Silverberg et al. (2004) Stone (2002) Wirt et al. (2001) Yazzie-Mintz (2007)
What are the perceptions of South Bay area high school CTE students regarding CTE?	Part II, 1–6	Bishop & Mane (2004) Bowden (1998) Cohen & Besharov (2002) Gaunt (2005) Kerka (2000) Langland (1999) Lewis (2001) O'Neill (1985) Ries (1997) Rossetti (1990) Silverberg et al. (2004) Vo (1997)
Who are the people who have influenced South Bay–area high school CTE students in their decisions about enrolling in CTE?	Part III, 1–13	Beukes (1986) Brown (2003) Gaunt (2005) Gehrt (1990) Gilbertson (1995) Gray & Herr (1997) Herr (1987) Huss & Banks (2001) Jackson (2002) Kaggwa (2000) Langland (1999) Lejeune (1977) Reynolds (1976) Ries (1997) Rossetti (1990) Vo (1997)

(*table continues*)

Research Question	Survey Question(s)	Literature Sources
What other factors, if any, have influenced South Bay–area high school CTE students in their decisions about enrolling in CTE?	Part IV, 1–7	Carroll et al. (2005) Cohen & Besharov (2002) Coleman (1959) Dembicki (1999) Herr (1977) Jackson (2002) Ries (2000) Rossetti (1990) Savickas (2000) Schargel & Smink (2001) Stone (2004)
What communication strategies do South Bay high school students see as accurately presenting the advantages of enrolling in a CTE courses?	Part V, 1–9	Daggett (2003) Husain (1999) Jackson (2002) Kibbler (1992) Ries (1999)

The survey contains two open-ended questions asking participants:

1. Have you ever considered dropping out of high school? If yes, please explain.
2. What other suggestions do you recommend for communicating information about CTE courses?

Validity

The survey instrument was validated by three experts. The experts provided feedback to ensure that the final instrument was clear, unbiased, and measured the research questions asked. The researcher sent the survey via e-mail to the three experts and asked them to review the survey protocol (see Appendix E; Appendix F). Expertise in this area was determined by experience in the field of CTE, counseling, high school administration, and district-level administration. One of the experts has been a school administrator for the past 20 years. She has served as a high school principal,

superintendent of K-12 districts, and a superintendent of a ROC. This expert has a doctorate in educational leadership. The second expert is a retired superintendent of a high school district, having served in that capacity for 18 years. The expert served as a school psychologist, a counselor, and a high school principal prior to becoming a superintendent. The third expert has served as a CTE center administrator outside of California and has conducted similar research pertaining to high school students' perception of CTE. The three experts were asked to read and review the survey for clarity, ease of task, and relevancy to the research questions. Each expert discussed his or her assessment of the instrument through follow-up phone conversations and e-mail. The comments regarding the survey instruments were as follows:

Expert 1 asked clarifying questions about the wording of some of the questions to ensure that the student's responses were clear.

Expert 2 shared concerns about asking whether the student's family had enough money to get by. In addition, this expert also felt that the survey might be too long.

Expert 3 felt that the survey was valid and is interested in seeing the results in comparison with his study.

The researcher used experts' input to clarify the wording of some of the questions. The survey length was not modified because it was to be completed online and the time it would take the student to complete the survey was estimated at 20 minutes. The pilot study of the survey determined that students completed the survey in 20 minutes or less.

Pilot Study

Prior to surveying the high school students enrolled in CTE courses at the Southern California ROC, a pilot study was conducted to ascertain the clarity of survey

directions, the clarity of the survey questions, and the length of time required for the survey completion. The researcher administered the survey to 10 randomly selected high school students enrolled in the center's fall session. The instructions were given orally as well. No verbal explanation as to the survey's purpose were given, other than to suggest that the researcher needed the students' assistance in determining student opinions and perceptions about career and technical education. The students completed the survey in 15 to 20 minutes. Following completion of the survey, students were asked to give their impressions, particularly about the clarity of the instrument. The students who participated in the pilot study were exempt from completing the survey when it was administered for the purpose of this study.

Report of Data

The data collected is presented in the following way: (a) as it relates to both the research problem and questions, (b) as it relates to previous research findings, (c) whether the findings not only have statistical significance but practical significance, meaning whether the findings are useful, and (d) identifying any weaknesses in the study (Leedy & Ormrod, 2005).

The data reported were categorized into four groups: (a) the demographic profile of CTE students on academic and socioeconomic issues, (b) the image and perception of CTE by high school students enrolled in CTE courses at the center, (c) the factors that influence students to enroll in CTE courses outside of the school day, and (d) student opinions regarding the methods that should be used to communicate information about CTE programs.

Data collected in response to the first research question were derived from Part I, 1–12 of the survey. This data represents students' responses to questions pertaining to their gender, grade level, home high school of attendance, social living arrangements, economic situation, academic standing, purpose for enrolling in a CTE course, interest level in CTE prior to enrolling in a CTE course, number of CTE courses that the respondent has previously completed both at the ROC and on their high school campus, level of knowledge of career interest prior to enrolling in a course, respondents' plans following high school and whether they have ever considered dropping out of high school, and identification of CTE courses the student is enrolled in and has completed.

Data collected in response to the second research questions were derived from Parts II and III of the survey. This data reports students' perceptions of CTE programs. Research findings reported in the literature review state that there is a need to improve the image of CTE.

The purpose of the study was to determine currently enrolled high school students' perception of CTE, that is, whether the students completing the survey view CTE positively or negatively. These data represent students' responses to six questions on the survey pertaining to the students for whom CTE programs are designed to serve. The categories are: (a) students who plan to go to work immediately after high school, (b) students who plan to join the military immediately after high school, (c) students who plan to go to college immediately after high school, (d) students who struggle academically, (e) students who have discipline problems in high school, and (e) students of all ability levels. Students were asked to respond to each of the categories on a 5-point Likert scale, from Strongly Disagree (1) to Strongly Agree (3). Students also had the

opportunity to respond Don't Know (5). Descriptive statistics were calculated and reported as percentages of those who Strongly Agree and Agree in each category. A table of descriptive statistics was used to display the results.

Data collected in response to the third and fourth research questions were derived from Parts III and IV of the survey. These data report the people and other factors that influenced the respondents' decisions to enroll in CTE programs and were reported showing both frequencies and percentages in a table format. Part III of the survey asked students who influenced their decision to enroll in CTE programs and to what extent. The people identified were high school counselor, high school teacher, high school principal, mother-female guardian, father-male guardian, brother or sister, grandparents, other extended family members, friends, Southern California ROC guidance specialist, and Southern California ROC teacher. For each person, the student responded on a 5-point Likert scale, which included: (a) Unsure, (b) Not at all, (c) Not that much, (d) A little, and (e) A lot. The response Do not have was available regarding a mother, father, or sibling. The analysis identified the level of influence of each group regarding students enrolling in courses at the CTE center.

Part IV of the survey asked students what other factors influenced their decisions to enroll in CTE programs and to what extent. The factors identified are high school career plan, taking a course that is University of California a-g approved, marketing material, Southern California ROC Web site, CTE Web site, job shadowing someone in the field that the student is interested in, and earning credits toward graduation. For each factor, the student responded on a 5-point Likert scale, which included: (a) Unsure, (b) Not at all, (c) Not that much, (d) A little, and (e) A lot. The analysis identifies the level of

influence of each factor regarding students enrolling in courses at the CTE center. A table of descriptive statistics was used to display the results.

Data collected in response to the fifth research question was derived from Part V of the survey responses. This data reported what respondents consider the most effective communication strategies to present accurately the advantages of enrolling in a CTE course and is reported in the form of a bar graph. The communication strategies identified are Facebook, Southern California ROC Web site, brochures, catalogues, presentation at students' respective high schools, information from a friend, career day held at students' respective high schools, and career day held at a community college. For each communication strategy, the student responded on a 5-point Likert scale, which included: (a) Not At All Effective, (b) Not Very Effective, (c) Somewhat Effective, (d) Effective, and (e) Very Effective. The analysis identified the level of effectiveness of each communication strategy for informing high school students about CTE.

Part V also included one open-ended question that asked students: What other communication strategies for informing high school students about CTE would they recommend to present accurately the advantages of enrolling in a CTE course? The answers from this question have been grouped according to response.

Data Analysis

The study explored the profile of CTE students with regard to their academic standing and their socioeconomic background, examined students' perceptions of CTE, identified the people and other factors that influence students in their decisions about CTE enrollment, and students' ideas pertaining to effectively marketing CTE courses to high school students.

Through the use of a 48-question survey, data were collected and analyzed to provide insight into five research questions. The survey data were analyzed using summary and descriptive statistics. Survey questions are categorized into the following five groups: (a) the demographic profile of CTE students on academic and socioeconomic issues, (b) the perceptions of CTE among secondary students, (c) the people who influence students regarding CTE enrollment, (d) other factors that influence students regarding CTE enrollments, and (e) the methods that effectively communicate the advantage of enrolling in CTE. Student responses have been analyzed in relation to the profile of the students and the students' perceptions of CTE. The data collected and the analysis of the data were reviewed by two of the above-mentioned experts to ensure objectivity.

Table 2 shows the data analysis for the research questions.

Table 2

Data Analysis for the Research Questions

Research Question	Description	Data Analysis
Q1: Profile of HS students	Profile of high school students who choose to enroll in CTE courses outside of the school day	Descriptive statistics of data by characteristics.
Q2 Attitudes/perceptions of HS students	Attitudes and perceptions of CTE of high students who choose to enroll in CTE courses outside of the school day	Descriptive statistics of data segmented by group
Q3 Influential People	Identification of most influential people in encouraging students to enroll in CTE programs	Descriptive statistics of data segmented by group

(*table continues*)

Research Question	Description	Data Analysis
Q4 Influential Factors	Identification of most influential factors in encouraging students to enroll in CTE programs	Descriptive statistics of data segmented by group
Q5 Marketing Strategies	Marketing strategies that high school students who choose to enroll in CTE courses outside of the school day feel are most effective	Descriptive statistics of data segmented by group

Procedures

The researcher followed the following steps in conducting the research study:

1. The researcher visited all classrooms during the 3:45 p.m.–6:45 p.m. and 6:45 p.m.–9:45 p.m. session and handed out a flyer with information explaining the research study.
2. The researcher presented the information about the research study from the flyer and answered any questions.
3. The researcher explained that participation in the research study was voluntary and that the students would not be penalized if they chose not to participate.
4. The researcher handed out a letter to the students providing information about the study (see Appendix G).
5. The students were asked to take the letter home and discuss it with their parent-guardian.
6. The students were asked to sign the assent form if they chose to participate (see Appendix H). The letter stated that the students could opt out of the study at any time.

7. The students were asked to have their parent-guardian sign the permission form to allow the student to participate (see Appendix I).
8. The students were instructed to return the forms in a sealed envelope to their instructor.
9. The instructors were asked to return the forms in a large sealed envelope to the researcher.
10. The researcher developed a schedule of dates and times that the students were asked to report to a designated computer lab to complete the survey.
11. Students were given a letter from the researcher informing them of the date and time to report to the computer lab to complete the survey.
12. The letter was delivered to the students in their class.
13. Students reported to the computer lab at their assigned time and were required to sign the sign-in sheet.
14. The researcher read the directions for completing the survey to the students who were present (see Appendix D, Survey of Influencing Factors, Perceptions and Marketing Strategies).
15. The survey was not coded in any way that identified the subjects.
16. The survey asked students to complete information pertaining to the following topics:
    - Demographic information
    - Perceptions of CTE
    - People who influence student enrollment in CTE
    - Other factors that influence student enrollment in CTE

- Communication strategies to present the advantages of enrolling in a CTE courses?

17. The students completed the survey online.
18. Completion of the survey took approximately 20 minutes.
19. The students were dismissed when they had completed the survey.
20. The survey did not require the students to enter their names or have any identification code associated with it.
21. The survey responses were password protected. Any information that is saved to a disc will be deleted from the hard drive and the disc will be secured in a locked file cabinet.
22. Students who were absent on their scheduled day were scheduled on a day designated as a make-up day.
23. Students were given a letter from the researcher informing them of the date and time to report to the computer lab to complete the survey on the make-up day.
24. The letter was delivered to the students in their classes.
25. The data was collected, analyzed, and presented in the form of descriptive statistics in response to each of the five research questions.

Summary

The researcher investigated the factors that influence high school students' decisions to enroll in a CTE center located in the South Bay region of Los Angeles as well as demographic information about the students enrolled and their perception of CTE. Students were asked to share their ideas about how to communicate information about

CTE programs. This was accomplished by having students respond to a survey. The data collected from the survey were analyzed using descriptive statistics of the survey results and data collected from prior research as presented in the literature review.

Chapter 4: Results

This study was conducted to learn about the demographic profile of South Bay–area high school CTE students, their perceptions related to CTE, the people and other factors that influenced them to enroll in CTE courses, and to solicit their opinions on which communication strategies South Bay high school students see as accurately informing the advantages of enrolling in a CTE course.

The following five research questions guided this study:

1. What is the demographic profile of high school students enrolled in CTE programs at the ROC located in the South Bay area of Los Angeles County?
2. What are the perceptions of South Bay–area high school CTE students regarding CTE?
3. Who are the people who have influenced South Bay–area high school CTE students in their decisions about enrolling in CTE?
4. What other factors, if any, have influenced South Bay–area high school CTE students in their decisions about enrolling in CTE?
5. What communication strategies do South Bay high school students see as accurately presenting the advantages of enrolling in a CTE courses?

This chapter presents the results from a survey administered to 160 high school students currently enrolled in January 2009 in one or more CTE courses at a CTE center in the South Bay area of Los Angeles. The respondents to the survey included high school students in Grades 10–12, enrolled in CTE courses during the hours of 3:45 p.m.–6:45 p.m. and 6:45 p.m.–9:45 p.m. The survey consisted of five sections, with a total of 48 questions.

The purpose of the survey was to learn about the demographic profile of South Bay–area high school CTE students, their perceptions related to CTE, the people and other factors that influence them to enroll in CTE courses, and to solicit their opinions on which communication strategies South Bay high school students see as accurately informing the advantages of enrolling in a CTE course. The first section contains 13 questions regarding demographic information from the students. Data collected represented students' responses to questions pertaining to their gender, grade level, home high school level of attendance, social living arrangements, economic situation, academic standing, purpose for enrolling in a CTE course, interest level in CTE prior to enrolling in a CTE course, number of CTE courses that the respondent has previously completed both at the ROC and on their high school campus, level of knowledge of career interest prior to enrolling in a course, respondents plans following high school and whether they have considered dropping out of high school, and identification of CTE courses the student is enrolled in and has completed. The second section contained 6 questions. These 6 questions ask students about who CTE programs are designed to serve. The responses to these questions provide information about the students' perception of CTE programs and who CTE programs are designed to serve. The third section contains 13 questions pertaining to the people who encouraged students to enroll in CTE courses. The fourth section, which contained 7 questions, asked students to what extent did other factors influenced their enrollment in CTE courses. The fifth section contained 9 questions and asked students what they consider the most effective methods of communicating the advantages of enrolling in a CTE course. Findings are presented in the following sections of this chapter and are organized by research question.

Procedures

The researcher contacted the superintendent of the Southern California ROC for permission to administer the survey to students. Upon receiving approval of the superintendent and the Pepperdine Universities Institutional Review Board, the researcher visited all classes offered during the 3:45 p.m.–6:45 p.m. session and 6:45 p.m.–9:45 p.m. sessions to acquire written assent from the high school students enrolled and written consent from the parents or guardian of students 17 years old or younger.

Information regarding the survey was distributed to 304 high school students. Of these, 160 students returned the assent and parent consent form and participated in the survey—a response rate of 52.6%. A 48-question survey was subsequently administered to 160 high school students enrolled in courses offered at 3:45 p.m.–6:45 p.m. and 6:45 p.m.–9:45 p.m. session at the Southern California ROC. The responses to the survey are presented in the discussion that follows.

Research Question 1: Findings

This study asked 13 questions to identify the demographic profile of high school students enrolled in CTE programs at the ROC located in the South Bay area of Los Angeles, including: (a) gender, (b) grade in school, (c) school of attendance, (d) with whom do they live, (e) family situation pertaining to income, (e) academic grades, (f) reason for enrolling, (g) interest level in CTE, (h) number of CTE courses completed, (i) career interest, (j) plans after high school, (k) considered dropping out of high school, and (l) courses currently taking or completed at Southern California ROC.

Survey questions 1 and 2 asked students to identified gender and grade level. Of the 160 survey participants, 19 students (11.9%) were in Grade 10, 61 students (38%)

were in Grade 11, and 80 students (50%) were in Grade 12. Of the 160 survey participants, 70 students (43.8%) were male and 90 students (56.2%) were female.

Survey question 3 asked students: What school do you attend? Information obtained from this survey questions was used to determine whether the student attended a low, medium, or high socioeconomic school, based on the number of students participating in the 2008 free and reduced meal data from the CDE as of June 10, 2009. Schools that are in the 1st quartile are classified in the high socioeconomic level, schools that are in the 2nd quartile are classified as middle socioeconomic level, and schools that are in the 3rd and 4th quartile are classified as low socioeconomic level. Using this information 52 students (37.7%) completing the survey attend a school that is classified high socioeconomic level, 19 students (13.8%) attend a school that is classified middle socioeconomic level, and 67 students (48.6%) attend a school that is classified low socioeconomic level. When combined, 51.5% of the students attend a high school classified as high or middle socioeconomic level.

Survey question 4 identified a student's social living arrangements. Students were asked: With whom do you live? Responses were on an 8-item nominal scale, and included: (a) Both your mother and your father, (b) Mother only, (c) Father only, (d) Mother and a stepfather, (e) Your mother some of the time and your father some of the time, (f) Other relatives, (g) Other adults, (h) Mother and stepfather (part time) and with Father and stepmother (part time), (i) Friend and their family, and (j) by yourself.

Frequencies and percentages were calculated for social living arrangement classification. In the Mother and Father classification, 62% of the students surveyed were represented. In the Mother only, and your Mother some of the time and your Father some

of the time classifications, 24% of the students surveyed were represented. The next highest classification with 8% of the students surveyed reporting was Mother and stepfather.

Table 3 shows the frequencies and percentages of the social arrangements for students who completed the survey.

Table 3

Frequencies and Percentages of the Social Living Arrangements for CTE Students Who Completed the Survey

Social Living Arrangement—With whom do you live	Frequency	Percentage
Mother and Father	99	62
Mother only	32	20
Father only	3	2
Mother and Stepfather	12	8
Your mother some of the time and your father some of the time	6	4
Other relatives	6	4
Other adults	1	1
Mother and stepfather (part time) and with Father and stepmother (part time)	1	1
Friend and their family	0	0
By yourself	0	0

Survey Question 5 asked students to identify the statement that best describes their family situation most of the time. Students were asked: Which of the following statements best describes your family situation most of the time? The students responded on a 4-item nominal scale, with choices including: (a) Your family has a hard time getting enough money for food, clothing, and basic living costs; (b) Your family has just enough money for food, clothing, and basic living costs; (c) Your family has a few problems buying what your family needs; and (d) Your family has no problems buying what your family needs and is able to buy special things. A total of 160 high school

students responded to this question. Frequencies and percentages were calculated for students attending high, middle, and low socioeconomic schools. In the No Financial Problems (high socioeconomic level) classification, 27% of the high school students were represented. In the Few Financial Problems (middle socioeconomic level) classification, 26% % of the high school students were represented. In the Just Enough to Get By (low socioeconomic level) classification, 39% of the high school students were represented. In the Hard Time Getting By (low socioeconomic level) classification, 8% of the high school students were represented. Schools ranked by the free and reduced lunch program show that 52 students (37.7%) who completed the survey attend a school that is classified high socioeconomic level, 19 students (13.8%) attend a school that is classified middle socioeconomic level, and 67 students (48.6%) attend a school that is classified low socioeconomic level.

Survey Question 6 identified academic performance self-reported by students completing the survey. Students were asked: What grades do you usually receive? Students responded along an 8-point scale ranging from Mostly As to Mostly Ds and Fs. A total of 160 students responded to this question. Frequencies and percentages were calculated for all responses. Of the students, 35% reported that they earn Bs or higher, 44% reported that they consider themselves a B/C or C student, and only 3% reported that consider themselves an F student.

Table 4 shows the frequencies and percentages of student academic grades for students completing the survey.

Table 4

Frequencies and Percentages of Student Academic Grades for CTE Students Who Completed the Survey

Grades	Frequency	Percentage
As	7	4
As & Bs	41	26
Bs	8	5
Bs & Cs	3	39
Cs	22	14
Cs & Ds	14	9
Ds	0	0
Ds & Fs	5	3
Total	160	100

Survey Question 7 identified reasons for taking courses at a Southern California ROC. Students responded either yes or no to the question: Are you taking courses at Southern California ROC as a way to make up credits needed to graduate from high school? Of the students, 49% responded yes and 51% responded no.

Survey Question 8 identified interest level in CTE courses prior to enrolling in a CTE course. Students responded to the question: What was your interest level in CTE courses prior to enrolling in a course? on a 5-point scale ranging from Not at all to A Great Deal. A total of 160 students responded to this question. Frequencies and percentages were calculated for all responses. Table 5 shows the student interest level in CTE courses prior to enrolling in a CTE course.

Table 5

Student Interest Level in CTE Courses Prior to Enrolling in a CTE Course

	Frequency	Percentage
Not at all	5	3
A little	17	11
Somewhat	44	28

(*table continues*)

	Frequency	Percentage
Quite a Lot	44	28
A Great Deal	50	31

Survey Question 9 identified the number of CTE courses the respondent has taken at a Southern California ROC or on his or her high school campus. Students responded to the question: How many CTE courses have you taken at Southern California ROC or on your high school campus? on a 5-point scale ranging from 0–1 to More than 5. A total of 160 students responded to this question. Frequencies and percentages were calculated for all responses.

Table 6 shows the student enrollment in CTE courses at Southern California ROC or on a high school campus.

Table 6

Student Enrollment in CTE Courses at Southern California ROC or on a High School Campus

	Frequency	Percentage
0–1	90	56
1–2	46	29
2–3	18	11
3–4	1	1
More than 5	5	3

Survey Question 10 identified career interest prior to enrolling in a CTE course. Students responded either yes or no to the question: Did you know what your career interest was prior to enrolling in a CTE course? Of the students, 65% responded yes and 35% responded no.

Survey Question 11 identified students' proposed plans immediately after high school. Students responded to the question: What do you plan to do immediately after high school? The students responded on a 7-item nominal scale, with choices including:

(a) I plan to go to work immediately after high school; (b) I plan to join the military immediately after high school; (c) I plan to go to a 2-year college immediately after high school; (d) I plan to go to a 4-year university immediately after high school; (e) I plan on joining a service organization such as the Peace Corp; (f) I plan on traveling immediately after high school; and (g) other, please specify. A total of 160 students responded to this question. Frequencies and percentages were calculated for all responses.

Table 7 shows what students plan to do immediately after high school.

Table 7

What Students Plan to Do Immediately After High School

	Frequency	Percentage
I plan to go to work immediately after high school	48	30
I plan to join the military immediately after high school	4	2
I plan to go to a 2-year community college immediately after high school	86	54
I plan to go to a 4-year university immediately after high school	52	32
I plan on joining a service organization such as the Peace Corp	2	1
I plan on traveling immediately after high school	9	6
Other, please specify	16	10

Students who responded Other stated the following:

- Going to an art school.
- To just focus on my career pathway.

- Going to a 2-year then transferring over to a 4-year college
- I don't know yet.
- Or join the Marines.
- I plan to work and to go to a 2-year college.
- I don't know.
- I plan to go to a specific electrical college.
- Starting a business.
- I plan to be dance instructor when I get out of high school.
- Plan to go to work and go to a 2-year community college immediately after high school.
- Not sure yet.
- El Camino for 2 years then transfer.
- Go to a 2-year at a community college.
- Getting a job.
- Living with my girl then go into the military.

Of the other responses, 50% refer to going to a 2-year college. Only 1% stated that they did not know.

Survey Question 12 identified students who had considered dropping out of high school. Students responded either yes or no to the question: Have you ever considered dropping out of high school? Of the students, 10% responded yes and 90% responded no. Students who responded yes stated the following:

- I want to drop out because my parents wouldn't let me get into football.
- Because I don't like school that much and it gets me bored.

- I sometimes get bored.
- I felt like dropping out because I thought I was terrible at school because of my grades.
- Sometimes I feel that school is stressful, but I guess it because of all the tests.
- I did very bad on my 1st years of high school now I'm a senior with low credits.
- I have sometimes because my family has difficulty with money so I didn't want to cause them trouble.
- Well I saw my mom struggling for money after my dad past away.
- I didn't see the point of going, most of the things I "Learned" I could have learned on my own.
- No comment.
- Because it has become overwhelming and sometimes I feel that I can't handle the pressure.
- Because of all of the teenage drama.
- I plan to stay as long as I can. I will not leave high school for anything in the world.
- High school is too long and seems pointless.
- I get tired of waking up every morning.
- No response.

Of the students who responded to why, 4% stated that they were bored and 1% stated that they had poor grades or not enough credits.

Summary of Research Question 1 Results

Student responses to survey questions 1–13 provide a profile of high school students who enroll in CTE courses outside of the school day. Of the students who enroll in courses during the 3:45 p.m.–6:45 p.m. and 6:45 p.m.–9:45 p.m., 48% attend lower socioeconomic schools and 46% of the students self-report that their families have a hard time or a few problems providing what the family needs, which is classified as lower socioeconomic status. Of the students, 62% reported living with both mother and father. In addition, 88% of the students reported earning Cs or better in school, 49% were attending classes outside of the school day to make up credits, and only 10% stated that they had ever considered dropping out of high school. Students also stated they knew what their career interests were prior to enrolling (65%), and 86% stated that they intend to pursue further education at either a 2-year college or 4-year university.

Research Question 2 Findings

Data collected in response to the second research question is derived from Part II of the survey. These data report students' perceptions of CTE programs compiled from student responses to six questions on the survey pertaining to the students for whom CTE programs are designed to serve. The categories are: (a) students who plan to go to work immediately after high school, (b) students who plan to join the military immediately after high school, (c) students who plan to go to college immediately after high school, (d) students who struggle academically, (e) students who have discipline problems in high school, and (f) students of all ability levels. Students were asked to respond to each of the categories on a 5-point Likert scale, from Strongly Disagree (1) to Strongly Agree (3). Students also had the opportunity to respond Don't Know (5). Descriptive statistics

are reported as percentages of those who Strongly Agree and Agree in each category. Table 8 shows the students who the CTE programs are designed to serve.

Table 8

Who Are the Students for Whom CTE Programs Are Designed to Serve?

	Agree		Strongly Agree	
	Frequency	Percentage	Frequency	Percentage
Students who plan to go to work immediately after high school	80	50%	51	32%
Students who plan to join the military immediately after high school	43	27%	9	6%
Students who plan to go to college immediately after high school	64	40%	62	39%
Students who struggle academically	60	38%	44	28%
Students who have discipline problems in high school	42	26%	17	11%
Students of all ability levels	52	32%	64	40%

Summary of Research Question 2 Results

Responses to questions 4, 5, and 6 provide an understanding of how students perceive CTE. Responses to question 6 (students of all ability levels) of strongly agree and agree indicate a positive image of CTE. Reponses to questions 4 (students who struggle academically) and 5 (students who have discipline problem in high school) of strongly agree and disagree indicate a negative image.

The results of this study report that 72% believe that CTE is for students of all ability levels; 76% believe that CTE is for those students who struggle academically; and 37% believe that CTE is for those students who have discipline problems in high school. The data show that students perceive CTE as positive in that students who responded

believe that the Center is for all students. The data also show that students perceive CTE as negative, with approximately the same percentage reporting that CTE is for those students who struggle academically and 37% reporting that CTE is for those students how have discipline problems in high school. In responding to question 3 in this study, 79% of the students state that CTE is designed for students who plan to go to college. In responding to question 2 in this study, 33% of the students state that CTE is designed for students who plan to join the military immediately after high school. In responding to question 1 in this study, 82% of the students state that CTE is designed for students who plan to go to work immediately after high school.

Research Question 3 Findings

Data collected in response to the third research question is derived from Part III of the survey. Part III of the survey asked students to report the people and other factors that influenced their decision to enroll in CTE programs. The data reported show both frequencies and percentages in table format. The people identified were high school counselor, high school teacher, high school principal, Mother-female guardian, Father-male guardian, brother or sister, grandparents, other extended family members, friends, Southern California ROC guidance specialist, and Southern California ROC teacher. For each person, the students responded on a 5-point Likert scale, which included: (a) Unsure, (b) Not at all, (c) Not that much, (d) A little, and (e) A lot. The response Do not have was available for a mother, father, or sibling. The analysis identifies each group's level of influence regarding students enrolling in CTE courses. Survey questions 1-12 asked students: Who are the people who influenced you to enroll in CTE programs. Table 9 shows the people who influenced students' decision to enroll in CTE programs.

Table 9

People Who Influenced the Respondent's Decisions to Enroll in CTE Programs

People Who Influenced		Frequency	Percentage	Total
High School Counselor	A Little	42	26	52
	A Lot	42	26	
Any High School Teacher	A Little	48	30	42
	A Lot	20	12	
High School Principal	A Little	25	16	19
	A Lot	5	3	
Mother-Female Guardian	A Little	30	19	72
	A Lot	85	53	
Father-Male Guardian	A Little	28	18	66
	A Lot	60	38	
Brother or Sister	A Little	29	18	42
	A Lot	39	24	
Grandparents	A Little	25	16	31
	A Lot	24	15	
Other Extended Family Members	A Little	32	20	41
	A Lot	34	21	
Friends	A Little	59	37	73
	A Lot	57	36	
Southern California ROC Guidance Specialist	A Little	45	28	54
	A Lot	42	26	
Southern California ROC Teacher	A Little	34	21	54
	A Lot	53	33	
Community Member	A Little	21	13	35
	A Lot	20	12	

Summary of Research Question 3 Results

This study sought to identify the people who influenced students to enroll in CTE courses outside of the school day. This study found that 76% of the students reported that their mother or female guardian influenced them. Of the students responding to this survey, 66% reported that their father or male guardian influenced them. Of the students responding to this survey, 73% reported that friends influenced them. Of the students, 54% reported that the Southern California ROC guidance counselor and Southern

California ROC teacher influenced them to enroll in CTE courses. Students reported that high school counselors do have some influence in encouraging CTE students to enroll in CTE courses (52%). Of the students in this study, 42% stated that high school teachers influenced them to enroll in a CTE course.

Research Question 4 Findings

Survey questions 1 through 7 in Part IV asked students what other factors influenced their decisions to enroll in CTE programs and to what extent. The factors identified are high school career plan, taking a course that is University of California a-g approved, marketing material, Southern California ROC Web site, CTE Web site, job shadowing someone in the field that the student is interested in, and earning credits toward graduation. For each factor, the student responded on a 5-point Likert scale, which includes: (a) Unsure, (b) Not at all, (c) Not that much, (d) A little, and (e) A lot. The analysis identifies the level of influence of each factor regarding students enrolling in courses at the CTE center.

Table 10 shows the other factors that influenced CTE students decisions to enroll in CTE programs and to what extent.

Table 10

Other Factors That Influenced the Respondent's Decisions to Enroll in CTE Programs and to What Extent

Other Factors		Frequency	Percentage	Total
High school career plan	A Little	54	34	70
	A Lot	57	36	
Taking a course that is a-g approved	A Little	43	27	45
	A Lot	29	18	

(*table continues*)

Other Factors		Frequency	Percentage	Total
Marketing materials (brochures, videos)	A Little	36	22	32
	A Lot	16	10	
Southern California ROC Web site	A Little	37	23	32
	A Lot	15	9	
CTE Web site	A Little	21	13	16
	A Lot	5	3	
Job shadowing someone in the field you are interested in	A Little	56	35	60
	A Lot	40	25	
Earning credits toward graduation requirements	A Little	39	24	66
	A Lot	67	42	

Summary of Research Question 4 Results

The survey identified three areas with a response rate at 60% or higher. Of the students, 70% responded that the high school career plan influenced their decision to enroll in a CTE programs. Of the students, 66% responded that earning credits toward graduation requirements influenced their decision to enroll in a CTE program, and 60% of the students responded that job shadowing someone in the field they are interested in influenced their decision to enroll in a CTE programs.

Research Question 5 Findings

Survey questions 1 though 8 in Part V asked students what are the most effective communication strategies for informing high school students about the advantages of enrolling in a CTE course. The communication strategies included in the survey questions have been reported in the form of a table. The communication strategies identified are Facebook, Southern California ROC Web site, brochures, catalogues, presentation at students' respective high schools, information from a friend, career day held at students' respective high schools, and career day held at a community college. For each communication strategy, the student responded on a 5-point Likert scale, which

included: (a) Not At All Effective, (b) Not Very Effective, (c) Somewhat Effective, (d) Effective, and (e) Very Effective. The analysis identifies the level of effectiveness of each communication strategy for informing high school students about CTE.

Part V also includes one open-ended question that asks students: What other suggestions would students recommend for informing students about CTE courses?

Table 11 shows the most effective communication strategies for informing high school students about CTE.

Table 11

The Most Effective Communication Strategies for Informing High School Students About CTE

Communication Strategies		Frequency	Percentage	Total
Facebook	Effective	45	28	46
	Very Effective	28	18	
Southern California ROC Web site	Effective	38	24	48
	Very Effective	23	14	
Brochures	Effective	51	32	56
	Very Effective	23	14	
Catalogues	Effective	46	29	45
	Very Effective	25	16	
Presentation at your high school	Effective	54	34	75
	Very Effective	66	41	
Information from a friend	Effective	49	31	61
	Very Effective	48	30	
Career day held at your high school	Effective	52	32	66
	Very Effective	54	34	
Career day held at a community college	Effective	44	28	50
	Very Effective	35	22	

Table 12 shows other communication strategies for informing high school students about CTE.

Table 12

Other Communication Strategies for Informing High School Students About CTE

Gender	Grade	
M	11	Talking about different pay for jobs
M	11	Class rooms informing
M	10	You should do it
F	12	None
F	12	Advertisement
F	12	I think Southern California ROC students should go out and talk
F	12	Getting more teachers to speak out about the classes as Southern California ROC
F	12	MySpace
M	11	TV
F	11	Well I have to know what class I took and for a reason, I wouldn't tell a person to join Southern California ROC and that's it I would tell them the benefits of how it goes to your application and credits and fun also a certificate…etc.
M	12	Radio
F	11	Myspace.com
F	11	Speaking to classes in high school
F	12	In a school yearbook
F	12	On MySpace due to the fact that some kids don't know about it and they might like it
F	12	Telling the school principal to alert all students that there is a way to get through tough times like the economy right now
F	12	Talking about it more often
F	10	To recommend it on MySpace to see if anyone is interested more than that than chatting!
M	11	I don't know
F	12	Should have brochures or flyers in Clubs like YMCA or the ATTIC. Some place else where students go to hang out.
M	11	Should have people go around local schools and talk more about the benefits of Southern California ROC.
M	12	They should ago around the local school and present to the students. This will get more students to attend Southern California ROC in the future.
M	11	Mass e-mail, I believe career days and just presentations at our high schools are the best way to inform someone about the programs.
M	12	On TV
M	12	Meetings at high schools and TV commercials and ads and such.
M	11	Yes
M	12	Demonstrations at schools

(*table continues*)

Gender	Grade	
F	11	I suggest that they add a performing arts class like dance please thank you
M	1	More time
F	11	MySpace, talks, special event
F	12	Need a MySpace
F	11	None
F	12	I recommend that for kids who do not live in the district should know about it too. I live out of the district and I think it would give other kids to know and get experience for the future.
F	12	Twitter
F	11	I suggest that they come up to the schools about every week or so and just give us information about SCROC.
M	11	Career plan in community and TV ads
M	10	Flyers
F	12	Letting more high schools know about this program. I think it's great and I'm thankful my mother came here and told me about it. Without her I would never know about this place.
F	12	It would help out if every student was actually handed something that might get them interested instead of just getting the option to take an interest.
F	11	Posting flyers around the city.
F	11	You should put up papers about career technical courses.
M	12	MySpace
F	12	http:Deviantart.com/advertisement
F	12	At the mall or something. Public gatherings
M	12	Public advertisement
F	12	MySpace
M	12	Billboards on the main streets and freeways.
M	11	To make presentations at schools during rallies.
M	11	At MySpace Web site.
M	11	Telling the homies.

Summary of Research Question 5 Results

Students were asked to respond to what they believe are the most effective communication strategies for informing high school students about CTE. There is little research regarding this topic. Student responses to the survey identified four communication strategies students regard as the most effective. They are: (a) Presentation at your high school (75%), (b) Career day held at your high school (66%), (c)

Information from a friend (61%), and (d) Brochures (56%). The most common responses when asked what other communication strategies for informing high school students were MySpace (9 responses), Classroom visits and meetings at high schools (9 responses), and TV, Brochures, and paper (9 responses).

Study findings revealed that students enrolling in CTE programs outside of the school day attend both lower socioeconomic schools (48.6%) and high socioeconomic schools (37.7%). Students live with both parents and self-report that they earn Cs or higher in their classes. Of these, 49% report that they are enrolled in CTE classes to make up credits for high school graduation and that they were interested in CTE prior to enrolling in classes. Of the students, 86% state that they plan to attend a 2-year college or 4-year university after graduating from high school. Only 10% of the students surveyed stated that they had considered dropping out of high school at sometime.

Student perception of CTE was positive, with 72% of the students reporting that they believe that CTE courses are for all students. Students also reported that CTE courses are for students who struggle academically (76%), which portrays a negative perception of CTE. In addition, 79% of the students reported that CTE programs are designed to serve students who plan to go to college immediately after high school, and 82% reported that CTE programs are designed to serve students who plan to go to work immediately after high school.

Factors that influence student enrollment in CTE courses were based on people and other factors. The people who influenced students by encouraging them to enroll in CTE courses were mother or female guardian, friends and father or male guardian. Other factors that influenced students to enroll were having a high school career plan, earning

credits toward high school graduation, and a job shadowing someone in the field in which they were interested.

Students were also asked what they consider the most effective communication strategies for informing high school students about the advantages of enrolling in a CTE course. The students identified the following strategies: Presentations at high schools, Career day at the high school, Information from a friend, and Brochures. Additional responses by students were classroom visits and meetings at the high school and utilizing MySpace. An analysis of the findings, conclusions, and recommendations are presented in Chapter 5.

Chapter 5: Conclusions, Implications, and Recommendations

This chapter provides an analysis and discussion of the study's findings and conclusions. Implications of the findings and recommendations for further research are included as well. Conclusions are both consistent with previously cited research and in contrast with previous research. The study adds to the research conducted by Gaunt (2005) to understand the perception of high school students enrolled in CTE programs at a CTE center outside of the school day as well as the factors that influenced student enrollment in CTE courses.

Restatement of Problem and Purpose

One of the expectations of the educational system in the United States is to prepare students for employment, yet approximately 20% of high schools students do not graduate high school (Mishel & Roy, 2006). In 2007–2008, 32% of high school students in California, 25.3% in Los Angeles County, and 22.9% in the region where the study was conducted, did not graduate from high school (CDE, 2009a).

Even though studies have shown that students who enroll in CTE courses are more likely to graduate from high school, acquire employability skills, and increase earning potential, there has been a decrease of 33% in student participation in CTE from 1987 to 2005 (Little Hoover Commission, 2007). This researcher believes that negative perceptions regarding CTE programs may have been responsible for the decrease. This belief is substantiated in a study conducted by Cohen and Besharov (2002) in which the researchers concluded that many people share the perception that CTE is for the worst students. According to Bishop and Mane (2004), in 1983, nationally, 14% of students enrolled in vocational programs also took college prep courses, and in 1992, 41% were

enrolled in college prep courses. The percentage of occupational concentrators going to college increased from 41.5% in 1982 to 54.7% in 1992.

This study's purpose is to understand: (a) the demographic profile of South Bay–area high school CTE students, (b) students' perceptions related to CTE, (c) people and other factors that influence students to enroll in CTE courses, and (d) students' opinions on which communication strategies were most effective in presenting the advantages of enrolling in a CTE courses. The following five research questions guided this study:

1. What is the demographic profile of high school students enrolled in CTE programs at the ROC located in the South Bay area of Los Angeles County?
2. What are the perceptions of South Bay–area high school CTE students regarding CTE?
3. Who are the people who have influenced South Bay–area high school CTE students in their decisions about enrolling in CTE?
4. What other factors, if any, have influenced South Bay–area high school CTE students in their decisions about enrolling in CTE?
5. What communication strategies do South Bay high school students see as accurately presenting the advantages of enrolling in CTE courses?
6. In order to answer these questions, the researcher administered a 48-question survey to 160 high school students enrolled in CTE courses at a ROC.

Research Question 1

Research Question 1 asked: What is the demographic profile of high school students enrolled in CTE programs at the ROC located in the South Bay area of Los Angeles County?

Summary and Analysis of Findings for Research Question 1

The demographic profile of South Bay–area high school CTE students includes five areas that have been included in prior research.

The five areas are: (a) socioeconomic status, (b) academic achievement, (c) social living arrangements, (d) plans after high school, and (e) dropping out of high school. Understanding the profile of students who choose to enroll in CTE courses outside of the school day will assist educators in developing strategies on how to communicate the benefits of CTE to specific groups of students. Research conducted by Lam (1982) identified factors that influence high school students in their career decisions by looking at remote external reasons. These remote external reasons include a student's family's socioeconomic status, which includes family income level and social living arrangements, and academic standing and the grades that students typically receive in high school. Kerka (2000) believes that CTE can assist in helping students identify what they want to pursue in college before students find themselves in a college environment without having or knowing a career focus.

Socioeconomic Status

The study provided insight into the socioeconomic status of high school students enrolling in CTE courses outside the school day. Of the students completing the survey, 48% attend a high school classified as low-socioeconomic; this classification was based on students participating in the free and reduced lunch program. In addition, students were asked to self-report on their family's socioeconomic situation. Of the students, 47% self-reported that they identify with the low socioeconomic status. The literature indicates that a higher proportion of students from lower socioeconomic backgrounds are enrolled

in CTE (Campbell, 1986). Levesque and Hudson (2003) found that students who identified with a lower economic category were found in higher concentrations in CTE. Gaunt (2005) found that the economic situation of non-CTE students was slightly better overall than that of CTE students, and CTE students are more disadvantaged financially. The results from this study show that the students choosing to enroll in CTE programs outside of the school day are from high socioeconomic status (37.7%), middle socioeconomic status (13.8%), and low socioeconomic status (48.6%).

Typical Grades

The survey asked students to self-report the typical grades that they earn in high school. The results from this study show that 26% of the students consider themselves an A-B student, with only 4% considering themselves an A student. Most of the students reported that they typically earn Bs and Cs (39%) and Cs (14%), combined totaling 53%. According to Levesque and Hudson (2003), students from the highest academic achievement groups were less likely to be in a CTE concentration. Other researchers also identified that students who perform lower academically were more likely to concentrate in CTE (NCES, 2002; Stone, 2002). In the study conducted by Gaunt (2005), 33% of the students enrolled in CTE courses consider themselves an A-B student, with only 9.5% considering themselves an A student, 27% reported that they typically earn Bs and Cs, and 8.7% earn C's, combined totaling 35.7%. This finding is consistent with the study conducted by Levesque and Hudson (2003) that indicated that students from the highest academic achievement groups were less likely to be in a CTE concentration. In this study students reported earning Bs and Cs at a higher percentage than the students in the Gaunt

(2005) study. Of the students enrolling in CTE courses outside of the school day, 53% consider themselves B-C students and 30% consider themselves A-B students.

Social Living Arrangements

Another factor that was examined regarding the profile of a high school student enrolled in CTE courses was their social living arrangements. The only research found that specifically looked at the social living arrangements of CTE students was conducted by Gaunt (2005). Gaunt found that 38.9% of CTE students live with mother and father. In addition, Gaunt found that 24.7% of CTE students were living in a single parent household that is defined as mother only, father only, mother some of the time, and father some of the time. Gaunt's study revealed that the percentage of non-CTE students who live with mother and father was 57%. In addition, Gaunt found that 20% of non-CTE students were living in a single parent household that is defined as mother only, father only, mother some of the time and father some of the time. Data collected from the baseline data of a longitudinal study reported on high school sophomores nationwide found that 57% live with both parents, 22% live in a single parent household, and 4% live in a variety of other arrangements (NCES, 2002). Findings from this study show that 64% live with both parents, 28% live in a single parent household, and 12% live in a variety of other arrangements. These results more closely align with the non-CTE student results from Gaunt's study and the high school sophomores who responded to the NCES (2002) longitudinal study.

Plans After High School

Student responses to this study as to what they plan to do after graduating from high school, reveal that 52% are planning to go to a 2-year community college, 32% are

planning to go to a 4-year university, and 30% reported that they plan to go to work. According to Hyslop and Meeder (2006), CTE programs do and will prepare students for a bachelor's degree. Grubb and Lazerson (1974) and Kincheloe (1999) report that the vocational education track provides an option for students who did not want to complete the academic curriculum. In 1998, 55% of high school seniors reported that they were going to college and 23% stated that they would probably go to college (Wirt et al., 2001). It appears that although students say that they are planning to attend college, there is a much lower number that actually do and even fewer that complete a degree. Yet, there has been an increase of 33% from 1982 to 1998 in the number of students earning occupational certificates and completing occupationally oriented AA and BA degrees (NCES, 2006).

In the past, only a small percentage of students enrolled in vocational studies enrolled in college and currently, more than half of all vocational students enroll in postsecondary education. Studies show that participation in vocational education does not impact the likelihood of attending college (Silverberg et. al., 2004). A 2006 study by DeLuca, Plank, and Estacion, found that students who enrolled in more CTE courses in high school were associated with lower rates of college attendance. Kerka (2000) believes that CTE can assist in helping students identify what they want to pursue in college before students find themselves in a college environment not understanding the connection between a college education and getting a job. According to NCES (2002), only 50% of students complete their bachelor's degree within 5 years and 40% never complete a degree. Of the 70.2% of high school graduates in 1992, 84% (who had not enrolled in CTE courses) enrolled in postsecondary education within 12 months of

graduating from high school, and 53% (who had completed four or more CTE credits) enrolled in postsecondary education within 12 months of graduating from high school. According to Gaunt (2005), both CTE and non-CTE high school students feel CTE is more directed toward students who go immediately into the workforce after high school. Of the high school students' responses to this survey question: What influenced them to enroll in a CTE course?, 70% stated that having a career plan influenced them to enroll in CTE courses.

Dropping Out of High School

In this study, 90% of the students responding to the question of whether they had ever considered dropping out of high school replied no and only 10% stated they had considered dropping out of high school. Of the 16 students who responded that they had considered dropping out, 6 students (4%) replied that the reason was boredom. The Center for Evaluation and Education Policy (2005) administers the High School Survey of Student Engagement annually. It was first administered in 2004. Of the students surveyed in 2006, 22% stated that they had thought about dropping out of high school (Yazzie-Mintz, 2007). The top three reasons stated were: (a) They did not like school (73%); (b) They did not like the teachers (61%); and (c) They did not see any value in assigned work (60%). In a study conducted by Bridgland et al. (2006), the top five reasons students gave for dropping out of high school were: (a) classes were not interesting, (b) missed too many days of school and could not catch up, (c) spent time with people who were not interested in school, (d) had too much freedom and not enough rules in their life, and (e) was failing in school.

The James Irvine Foundation conducted a study of 9th and 10th graders in California who had dropped out of school (as cited in Landsberg, 2006). Four out of five (81%) of the students said that there should be more opportunities for real-world learning. Students stated that they need to see the connection between school and getting a good job and wanted more experiential learning. According to Bishop and Mane (2003), giving students the option of choosing career-technical courses in high school will result in students staying in school and graduating. Evidence also indicates that students who begin preparing for an occupation in high school are more successful in the labor market both in the short and long run.

High school students completing the survey in this study enrolled in CTE courses outside of the school day. Therefore, whether they enroll in CTE courses is their choice. Of the students who responded, 70% stated that they were influenced to enroll in a course by having a career plan. Among the students, 51% stated that they were not taking courses to earn credits, implying that the students enrolled for other reasons.

In responding to whether they had considered dropping out of high school, only 10% of the students responding to this survey stated that they had considered the option. These results are not consistent with the results from the High School Survey of Student Engagement in which 22% of the students reported that they had considered dropping out of school. Research indicates that students enrolled in certain vocational educational programs are associated with staying in school and not dropping out (Kemple & Scott-Clyton, 2004).

Research Question 2

Research question 2 asked: What are the perceptions of South Bay–area high school CTE students regarding CTE?

Summary and Analysis of Findings for Research Question 2

Six questions were asked of students with regard to identifying the students for whom CTE programs are designed to serve. Questions 4, 5, and 6 provide an understanding of how high school students perceive CTE. Responses to question 6 (students of all ability levels) of strongly agree and agree, indicate a positive image of CTE. Reponses to question 4 (students who struggle academically) and question 5 (students who have discipline problems in high school) of strongly agree and disagree, indicate a negative image.

Research conducted by Gaunt (2005) reported that 80% of both CTE and non-CTE students believe that CTE is for students of all ability levels, 40% believe that CTE is for those students who struggle academically, and 20 % believe that CTE is for students who have discipline problems in high school. The results of this study show that 72% of students surveyed believe that CTE is for students of all ability levels, 76% believe that CTE is for those students who struggle academically, and 37% believe that CTE is for those students who have discipline problems in high school. The results of this study are consistent in that both studies show that CTE is for all students, which would indicate that students have a positive perception of CTE.

Even though CTE programs are thought to be for low-achieving students, there are students in the top 5% of their classes enrolled in CTE programs (Ries, 2000). On the other hand, Levesque and Hudson (2003) state that even though CTE recruits from a

wide range of academic performers, students in the highest achievement groups are less likely to be CTE concentrators. Researchers have found that students of different levels of academic standing participate in CTE (Bowden, 1998; Kerka, 2000; Langland, 1999; Ries, 1997; Vo, 1977). In addition, high school students are enrolled in CTE courses at the same time that they are enrolled in college prep courses. According to Silverberg et al. (2004), students enrolled in CTE courses and academic courses are better prepared for college than those students who focus on academics or CTE in isolation. Yet, students who enroll in both concurrently represent only 13% of high school graduates.

That this study reports that 76% of the students responding to this survey believe that CTE is for those students who struggle academically would indicate that students have a negative perception of CTE. Research conducted by the National Research Center concluded that the perception of CTE needs to change (as cited in Lewis, 2001). Many people feel that CTE offers an inferior curriculum and that students who cannot meet college entrance requirements need to enroll in CTE courses. Research conducted by Cohen and Besharov (2002) reports that in many instances, CTE has had an image problem that directly impacts enrollment. A study conducted by Rossetti (1990) reported a negative impact on enrollment as a result of poor image perceptions of CTE and suggested stakeholders need to change the way people look at career and technical education. O'Neill (1985) found that negative attitudes toward CTE cause difficulties in recruitment and enrollment.

Comprehensive high schools might perceive CTE in different ways. Seven of the high schools report, in the SARC that is published annually, that CTE is a work prep (CDE, 2009a) program listed separate from the college prep programs in this report.

According to Bishop and Mane (2004), in 1983, 14% of students enrolled in vocational programs also took college prep courses and in 1992, 41% were enrolled in college prep courses. The percentage of occupational concentrators going to college increased from 41.5% in 1982 to 54.7% in 1992. In 1998, 96% of all high school graduates' earned one or more credits in any form of CTE (U.S. Department of Education, 2003).

Additional findings in response to this research question show three similarities with the Gaunt (2005) study: (a) 79% of the students responding in this study state that CTE is designed for students who plan to go to college, which is similar to the results of the study conducted by Gaunt, 82.4%; (b) 33% of the students state that CTE is designed for students who plan to join the military immediately after high school, which is similar to the results of the study conducted by Gaunt, 28.8%; and (c) 82% of the students responding in this study state that CTE is designed for students who plan to go to work immediately after high school, again similar to the results of the study conducted by Gaunt, 82.47%.

Research Question 3

Research question 3 asked: Who are the people who have influenced South Bay–area high school CTE students in their decisions about enrolling in CTE?

Summary and Analysis of Findings for Research Question 3

This study sought to identify the people who influenced students to enroll in CTE courses outside of the school day. Findings to this research question are similar to the study conducted by Gaunt (2005) in that both studies found that parents, especially mothers and female guardians, and friends influenced students in enrolling in CTE courses. In Gaunt's (2005) study, 61.9% of CTE students reported that their mothers or

female guardians influenced them. In comparison, 76% of the students responding to this survey reported that their mothers or female guardians influenced them. In the same study by Gaunt (2005), 57.7% of CTE students reported that their fathers or male guardians influenced them. In comparison, 66% of the students responding to this survey reported that their fathers or male guardians influenced them.

Several research studies have reported mixed results on the people who influence student decision making regarding CTE. Two studies that are consistent with the results of this study were conducted by Rossetti (1990) and Jackson (2002). Rossetti (1990) found that friends (44%) are second to mother-female guardian's influence (46%). Jackson (2002) found parents to have influence in student decision making regarding CTE. Other studies found parents and friends to be little or no influence (Beukes, 1986; Gehrt, 1990; Herr, 1987; Reynolds, 1976). Beukes (1986) and Reynolds (1976) found that friends had no influence on decisions regarding enrolling in CTE courses. Dube (1987) found that friends (89%) discouraged students from enrolling in CTE programs (as cited in Rossetti, 1989).

Additional research findings pertaining to parents influencing their children to enroll in CTE courses include Ries (1997), Vo (1997), Gilbertson (1995), Herr (1987), Gray and Herr (1997), Kaggwa (2000), and Langland (1999). According to Ries (1997) and Vo (1997), parents are of the opinion that vocational education is the path for non college-bound students who have a narrow focus and limited opportunities. Gilbertson (1995) found that parents of students enrolled in CTE courses had a positive attitude toward CTE programs and parents of students not enrolled in CTE programs did not view CTE programs in a positive light. Herr (1987) found that parents believe that they have

more influence than they have and parents and students do not agree regarding the amount of influence parents have. Gray and Herr (1997) state that parents have not been convinced CTE programs are for all students and that it is up to the CTE community to dispel that myth. Gray and Herr also believe that it is up to the CTE community to dispel the myth that CTE programs are for students who are not going to college. According to Brown (2003) stereotypes about CTE are still held by parents, students, and employers. In fact, adults who are responsible for informing students about CTE might be influencing students adversely from enrolling in CTE courses. Students and the media are getting the message that CTE has changed, but parents who have their hearts set on having their children attend college might be the biggest challenge (Kaggwa, 2000; Langland, 1999).

Another similarity in the findings to this research question pertains to the influence of friends in enrolling in CTE courses. The results from Gaunt's (2005) study revealed that 70% of CTE students reported that friends influenced them. The results from this study indicate 73% of the students responding to this survey reported that they were influenced by friends. This finding is supported by Rossetti (1990) who found that friends (44%) are second to mother-female guardian's influence (46%). Conflicting findings were shared by Beukes (1986) and Reynolds (1976), who found that friends had no influence on decisions regarding enrolling in CTE courses. Another study conducted by Dube (1987) found that friends (89%) discouraged students from enrolling in CTE programs (as cited in Rossetti, 1989).

Additional similarities were found when comparing the results from the study conducted by other researchers, Gaunt (2005), and this study. Studies conducted by Gehrt

(1990) and Jackson (2002) found that CTE personnel had an influence on student decision making with regard to CTE. Gaunt (2005) found that CTE staff influence 52.4% of the students to attend the center. These findings were replicated in this study: 54% of the students reported that the Southern California ROC guidance specialist and Southern California ROC teachers influenced them to enroll in CTE courses.

This study found that high school counselors do have some influence in encouraging CTE students to enroll in CTE courses (52%). Similar results were reported by the Gaunt (2005) study that found that high school counselors influenced students to enroll (49.2%). Previous studies showed mixed results regarding the level of influence that high school counselors have over students deciding to enroll in CTE courses. Some researcher reported that counselors are key influencers on student decision making regarding CTE (Herr, 1987; Huss & Banks, 2001; Jackson, 2002; Rossetti, 1990). Other researchers found high school counselors had little impact on a student's decision to enroll in a CTE program (Beukes, 1986; Reynolds, 1976).

Herr (1987), Lejeune (1977), and Rossetti (1990) found that high school teachers have some influence on students deciding to enroll in CTE courses. Gaunt (2005) found that 30% of the CTE students indicated that high school teachers had some influence on their decision to attend the CTE center. Of the students in this study, 42% stated that high school teachers influenced them to enroll in a CTE course. In contrast to these findings, Beukes (1986) found that high school teachers had little or no influence. In this study, the person having the least influence on students enrolling in CTE was the high school principal (19%). Gaunt's (2005) study reflected 18.2%.

Research Question 4

Research question 4 asked: What other factors, if any, have influenced South Bay–area high school CTE students in their decisions about enrolling in CTE?

Summary and Analysis of Findings for Research Question 4

The findings from this study support that students are thinking about their future, they have career plans, and they plan to graduate from high school. There may be other factors that influence a high school student's decision to enroll in CTE courses, although little research had been conducted to identify those factors. Some of the factors researched in this study have been mentioned in literature as having the potential to influence students such as matching interests with the program and students wanting to get a head start on pursuing their career interest. These studies will be discussed here because of the high percentage (70%) of students responding that a high school career plan influenced their decision to enroll in a CTE programs.

According to Jackson (2002), who conducted a qualitative study of why students choose to enroll in CTE programs, the deciding factor for students was the matching of their interests with the program. Another factor was that students wanted to get a head start on their career interests. According to Ries (2000), students see the opportunities that CTE offers as providing them with more options as they pursue their career paths. Schargel and Smink (2001) identified five potential benefits for at-risk-students who take CTE courses. One of these benefits is career exploration and planning. All of these studies support that students knowing what their interests are and thinking about their plan for the future may be influencing factors for enrolling in CTE courses.

An outcome of this study was that 86% of the students stated that they plan to continue their education at a 2-year or 4-year college. According the U.S. Department of Education (2004), there are a variety of other reasons that students enroll in CTE courses. One of these reasons is to assist students in selecting or preparing for a college major. Some programs such as tech prep and High Schools That Work are academically rigorous and offer vocational programs that prepare students for college and careers in an increasingly high-tech world (Ries, 2000). A study conducted by Dembicki (1999) reported that most students who do go to college do not have a clear idea of their career interests, which results in changing majors and, in the end, finding a major that can be completed the quickest, and ultimately leaving college without any job prospects.

Stevens (1973) suggests that students need to learn to look ahead and look around before they leave school to develop competence and skill in the following five domains: (a) self-knowledge, (b) occupational information, (c) decision making, (d) planning, and (e) problem solving. To plan ahead, students need to know what options are available in education and careers. A good example of this can be seen by the increasing number of college graduates who enroll in associate degree or certificate programs in technical fields to prepare for a job, since most jobs do not require a college degree (Cohen & Besharov, 2002). Workers without high school diplomas earn approximately $852,000 throughout a 40-year career. Individuals with an associate's degree earn $672,000 more and a bachelor's degree can increase earnings more than $1.9 million throughout a 40-year period (Bishop & Mane, 2005).

Career maturity, first studied by Super (1955), is defined as behaviors that assist students in identifying, choosing, planning, and executing career goals. Herr (1977)

believed that students who are forced to make a decision too soon lack the maturity to make that decision and that students are unable to make those decisions until they are seniors in high school. Rossetti (1990) studied factors that influenced students not to enroll in a vocational program. Rossetti recommends that students in high school need more exposure to career guidance and CTE offerings available, and that counselors need to take responsibility for assisting students in career decision making, with the support of parents.

This trend in education is supported by legislation passed in California in 2006, Assembly Bill 248, requiring students in 9th grade who enroll in ROC/P courses to enroll in a 4-year career pathway and both 9th and 10th grade students are required to have a 4-year career plan in order to enroll in CTE courses offered by a ROC/P.

In a study conducted by James Irvine Foundation in 2004 of 9th and 10th graders in California, 6 of 10 students stated that they were not motivated in school. Of the survey participants, 90% agreed that they would be motivated if classes were relevant to future careers (as cited in Landsberg, 2006). Stone (2004) identified several program techniques that keep students in school: career guidance, work-based learning, career pathways, and tech prep. Coleman (1959) suggests that secondary education should offer all adolescents more opportunities for career exploration and opportunities to deal with real-world problems. Carroll et al. (2005) stated that high school students need to remain engaged in their education and to explore career goals. Teens that see the connection between education and their future careers are less likely to engage in negatively influenced and destructive behaviors. Cohen and Besharov (2002) believe that school systems should require the development of a career plan for all students by the 10th grade.

This study identified three areas with a response rate at 60% or higher. Of the students, 70% responded that the high school career plans influenced their decisions to enroll in a CTE programs. Of the students, 66% responded that earning credits toward graduation requirements influenced their decisions to enroll in CTE programs, and 60% of the students responded that job shadowing someone in their field of interest influenced their decision to enroll in CTE programs.

Research Question 5

Research question 5 asked: What communication strategies do South Bay high school students see as accurately presenting the advantages of enrolling in CTE courses?

Summary and Analysis of Findings for Research Question 5

In this study, students were asked to respond to what they believe are the most effective communication strategies for informing high school students about CTE. Student responses to the survey identified four communication strategies students regard as the most effective: (a) presentation at your high school (75%), (b) career day held at your high school (66%), (c) information from a friend (61%), and (d) brochures (56%). The most common responses when asked what other communication strategies for informing high school students were: MySpace (9 responses). classroom visits and meetings at high schools (9 responses), and TV, brochures, and the newspaper (9 responses).

For the past two decades, the marketing of CTE programs has been discussed as key to the survival of CTE through changing the perception of CTE. Daggett (2003) acknowledged that even though there have been numerous success stories during the past several years resulting from reform efforts, there is more to be done. Although research

has not been conducted on the subject of marketing CTE programs, marketing materials such as brochures, visits, and tours were identified as having a likely impact on students deciding to enroll in CTE programs (Husain, 1999; Jackson, 2002; Ries, 1999). Jackson (2002) reported that most students learned about CTE courses in which they enrolled through recruitment activities at their high schools. Other effective strategies include tours, brochures, Web sites, outreach efforts by CTE staff, and relationships with industry and business communities. According to Ries (1999), student-produced videos are also used by CTE educators. Kibler (1992) suggests that CTE teachers can play a key role in marketing their programs by setting high standards, keeping up with changes in the industry, and making sure that an advisory committee is composed of individuals who are working in the field and are current with industry needs.

Conclusions

This study provided information about the demographic profile of South Bay–area high school CTE students (those who enroll in CTE courses outside the school day), their perceptions related to CTE, the people and other factors that influence them to enroll in CTE courses, and students' opinions on which communication strategies present the advantages of enrolling in a CTE courses. There are five conclusions that can be drawn from the analysis of the findings.

Conclusion 1

High school students enrolling in CTE courses outside the school day are: (a) equally from lower socioeconomic schools and higher socioeconomic schools; (b) A, B, or C students; (c) more closely align with the non-CTE students in Gaunt's (2005) study

in regard to social living arrangements; (d) students who had not considered dropping out of high school; and (e) planning to continue their education at a 2-year or 4-year college.

The social living arrangements of the students participating in this study were similar to the non-CTE students' social-living arrangements in the study conducted by Gaunt (2005). In addition, the profile of high school students attending courses outside of the school day encompasses students who plan to continue their education at a 2- or 4-year college and have not considered dropping out of high school.

Bishop and Mane (2003) found that by giving students the option of choosing career-technical courses in high school, students will stay in school and graduate. Research indicates that students enrolled in certain vocational educational programs are associated with staying in school and not dropping out (Kemple & Scott-Clyton, 2004). Hyslop and Meeder (2006) found that CTE programs do and will prepare students for a bachelor's degree. Kerka (2000) believes CTE can assist in helping students identify what they want to pursue in college before students find themselves in a college environment not understanding the connection between a college education and getting a job.

Conclusion 2

High school students enrolled in CTE courses outside the school day perceive CTE both positively and negatively. Students believe that that CTE is for all students and for students who struggle academically. Results from the study conducted by Gaunt (2005) indicate 80% of both CTE and non-CTE students believe that CTE is for students of all ability levels, thereby resulting in a positive perception of CTE. In this same study, 40% of the students surveyed believe that CTE is for students who struggle academically,

which reflects a negative perception of CTE. Additionally, in this study, students responded both positively and negatively to both questions. This could signify that the perception of who CTE programs are designed to serve is changing and should be a topic for additional research. Researchers have found that students of different levels of academic standing participate in CTE (Bowden, 1998; Kerka, 2000; Langland, 1999; Ries, 1997; Vo, 1997).

Conclusion 3

High school students are most influenced to enroll in CTE by friends, mothers, and female guardians. There have been several studies that support this finding. Rossetti (1990) found that friends (44%) are second to mother-female guardian's influence (46%). Jackson (2002) found parents to have influence in student decision making regarding CTE. These findings are similar to the study that was conducted by Gaunt (2005). Gaunt (2005) found that parents, especially mothers and female guardians, and friends influenced students enrolling in CTE courses.

This information is helpful to CTE educators in developing strategies for recruitment efforts that communicate directly with these individuals. Students who take CTE courses at the CTE center communicate positive experiences to their friends. In addition, students indicated they meet new friends from other high school campuses when they attend classes at the center. Rossetti's (1990) study supported this and indicated that CTE centers encourage social interaction and friendships and serve as a place to meet new people. Centers should also sponsor activities that foster these activities. Making new friends encourages other high school students to attend.

Communication with parents should be a high priority in providing information about CTE to parents and high school students. These strategies can include open houses, parent nights, and written and electronic communication to parents explaining the benefits of CTE. The influence of parents is significant and needs to be addressed in order to increase the understanding the benefits of CTE.

In addition, another group of individuals that students identified as influencing them to enroll in CTE are career guidance specialists at the CTE center. Career guidance specialists work directly with the high schools to provide information about CTE programs offered at the center. Through this communication, high school students learn about the opportunities to enroll in courses that are not otherwise offered at their high school. Career guidance specialists also work at the center so that they can connect with the students while they are taking courses at the center. Gehrt (1990) and Jackson (2002) found that CTE personnel had an influence on student decision making with regard to CTE.

Conclusion 4

High school students enrolling in CTE courses outside of the school day report that having a career plan influenced them to enroll in CTE courses. Kerka (2000) believes that CTE can assist in helping students identify what they want to pursue in college before students find themselves in a college environment without having or knowing a focus. Jackson (2002) found that students want to get a head start on their career interest. Ries (2000) indicated students see the opportunities that CTE offers, which includes providing students with more options as they pursue their career paths. Schargel and Smink (2001) identified five potential benefits for at-risk students who take CTE courses.

One of these benefits is career exploration and planning. Having opportunities to enroll in CTE classes and developing a career plan appear to be two common factors in motivating students to stay in school and graduate.

Conclusion 5

Students identified presentations at their high school, attending a career day at their high school, and receiving information from a friend as the most effective ways to communicate the benefits of CTE courses. All three of these methods of communication pertain to learning about careers through firsthand information from individuals who have experience in that career area. These methods of communication provide opportunities for students to interact by asking questions and receiving information through conversation. Jackson (2002) reported that most students learned about CTE courses in which they enrolled through recruitment activities at their high schools.

Recommendations

Policy

High school graduation requirement. Include as a graduation requirement completion of CTE credits and development of a career plan. The literature and this study identified one of the key influencing factors for students enrolling in CTE courses outside of the school day as having a high school career plan. Literature supports those students who enroll in CTE courses graduate from high school at a higher rate.

Development of a career plan. Include the requirement that all students have a career plan along with completing, a sequence of CTE courses, or experiences as a high school graduation requirement. Providing students with this opportunity as a way to meet the graduation requirements will potentially increase their motivation to stay in school

and graduate. Rethinking how graduation requirements may be met will help to reform high schools. High schools must change in order to accommodate all students and prepare students for a workforce that has changed drastically.

UC-CSU a-g requirements included in CTE courses. Courses that are considered to meet the a-g requirement for entrance to a UC-CSU school must include CTE standards where applicable. Add to the requirement information about the career pathways that these courses support. Including this information will assist in the integration of CTE and academics in the a- g approved courses and in increasing the knowledge that college is not the career but the pathway to a career.

Provide adequate funding for CTE programs. Unfortunately when there is a decrease in the available funding for education two of the first areas to be reduced are CTE and elective courses. The results of this survey show that high school students rely on CTE courses to learn about and pursue a career focus. Requiring CTE courses and a developed plan as a graduation requirement will decrease the possibility of cutting CTE courses during difficult budget years. Including CTE courses to meet graduation requirements will change the term elective into the understanding that all courses that students take in high school need to be focused on achieving the students' career goals.

Support the existing ROC/P structure. Continue to support the ROC/P structure currently in place to ensure that high school students have the opportunity to enroll in equipment intensive courses that are cost prohibitive to offer on high school campuses. One of the outcomes of increased academic graduation requirements for high school students has been the reduction of CTE courses offered on high school campuses. The ROC/P structure provides financial resources to assist school districts with course

offerings that they might not be able to include in the high school schedule because of a lack of funds. In addition, ROCs provide courses that are equipment intensive, requiring funds to acquire and maintain equipment as well as upgrades to existing technology to ensure that students have the opportunity to learn in an educational environment that meets industry standards.

Practice

Articulation of Career Pathways. Continue to encourage high schools to offer courses that are part of a career pathway that articulate with the regional occupational center, 2-year colleges, and 4-year universities. This study revealed that high school students enrolled in CTE outside of the school day were influenced to enroll because they have developed a career plan. Critical to any career plan is the availability of sequential courses offered in a career pathway. These courses should be offered at the high school, the ROC, and then articulated with the 2-year college and 4-year university.

Continue to work with students to develop a career plan. This study revealed that an influencing factor that resulted in high school students enrolling in CTE courses outside of the school day was having a career plan. Legislation in California currently exists that requires all 9th and 10th graders participating in ROC/P to develop a career plan. In reality, all students need to have a career plan. Procedures need to be implemented to ensure that the career plan is reviewed on an annual basis. By doing so, students will have the opportunity to reflect on the courses they have taken and determine if they are going to revise their plans to reflect their interests. In addition, students who did not develop a plan in their 9th and 10th grade year will have the opportunity to develop their plans during an annual review with a career guidance specialist.

Communicate with parents. Ensure that all students receive information regarding CTE programs (offered outside of the school day) and pathways by communicating directly with parents. Identify and implement effective communication strategies that provide parents with information regarding CTE courses. This study revealed that mothers and female guardians have the greatest influence on high school students enrolling in CTE courses. Information can be communicated by hosting parent nights at the ROC as well as on high school and middle school campuses and mailing information directly to parents.

Further Research

The significance of this study was to provide information on the demographic profile of high school students enrolling in CTE courses outside of the school day as well as to understand who and what influences students to enroll in CTE courses.

High schools and CTE high schools. Further research is should be conducted at comprehensive high schools as well as career and technical high schools. This research should focus on CTE programs, the issue of perception as well as the typical student profile, factors that influence, and people who influence students in their decision to enroll in CTE courses.

Career Plans. More research is needed on the role that the career plan has on high school graduation rate, enrolling in high education and/or career fields. Although the development of career plans has been encouraged for the past 18 years, there has been limited research in this area on the impact that the career plan has on high school graduation rate and selection and completion of higher education goals. This study implies that the career plan is a motivating factor for students to enroll in CTE and the

next step would be to research the affects of the career plan over time. This study is a starting point in identifying the importance of the career plan for high school students.

Parent and student perspective of CTE. Conduct research to understand parent perspective of CTE and how it aligns with student perspective of CTE. Knowing that mothers and female guardians influence high school students to enroll in CTE programs, it is important to understand the correlation between parents and students' perceptions of CTE. Follow-up studies in this area would determine the extent that perceptions have changed the understanding that CTE is for all students. Included in this research should be information regarding parents' backgrounds and perceptions of CTE.

Development of Career Plans. Conduct further research on the development of career plans by high school students, specifically in regard to the five domains identified by Stevens (1973). Stevens suggests that students need to learn to look ahead and look around before they leave school to develop competence and skill in the following five domains: (a) self-knowledge, (b) occupational information, (c) decision making, (d) planning, and (e) problem solving. High school students engage in a process to develop a career plan. To understand further the impact that these five domains have on student success in high school and beyond, it is necessary to identify the activities that students engage in to increase their competence and skill in the above-mentioned domains.

Compare CTE students with non-CTE students. Conduct research to determine how students who enroll in CTE courses at the high school during the school day compare with students who enroll in CTE courses at a ROC outside of the school day. This study could include multiple methods that would allow for opportunities to clarify issues that are difficult to discern from an independent survey. This study could be

improved upon utilizing a triangulation approach to data collection. Conducting a similar study using a qualitative method would provide the opportunity to extract more in-depth information from student responses and would provide a richer source of data.

Closing Thoughts

Workers in the 21st century will need more than academic and technical skills. Students and adults need to learn life-work designing and building skills in order to become healthy, self-reliant, and productive citizens. This has been defined by Gysbers and Henderson (1977) as "life career development" (p. 49) and is defined as "self-development over a person's life span through the integration of the roles, settings, and events in a person's life" (p. 49). Success requires individuals to have life-work skills so that they know how to locate and process information and to make good choices when they encounter a transition point during their life journey (Jarvis, 2000). Americans stay fewer years in a job than in the past, so our education and/or workplace need to have support structures in place to retrain workers. Workers who stay with a company fewer than 25 months rose from 28% in 1968 to 40% in 1978. This percentage continues to increase (Bishop, 1995b). CTE plays a vital role in preparing high school students for their future as well as offering retraining programs for adults, ensuring that the United States generates a viable workforce to meet the needs of evolving industries.

Bishop and Mane (2005) stated 15 years ago that if schools withdrew from the occupational training market, school leavers would find it more difficult to get work and have to accept lower wage rates. Employers would hire less skilled workers and the quality of the service would deteriorate, they would substitute machines for people, or they would arrange for workers in other countries to do the work (Bishop & Mane, 2005).

Bishop and Mane (2005), 15 years later, found that job skills were becoming obsolete more quickly than in the past. At that time, Bishop argued that those who believe that there is less of a need for occupational skills have it backward. At the same rate that job skills become obsolete, new skills need to be identified and learned. If this is the case, then there is a greater need for occupational training not a reduction.

Student responses in this study state that having a career plan influenced them to enroll in CTE courses. The planning that is being done by high school students in developing a career plan might be assisting students in developing the skills that Stevens (1973) suggested students need to learn. Development of those skills begins by looking ahead and looking around before they leave school to develop competence and skills in the following five domains: (a) self-knowledge, (b) occupational information, (c) decision making, (d) planning, and (e) problem solving.

We cannot think about preparing students for careers without making sure that they acquire the skills necessary to plan for their future and to understand the global society in which we live. We do not know what the jobs of the future might be, but we do know that students need to have the skills and information necessary to plan for their future, to use their imaginations, utilize new tools to create products, and take a creative approach to solving problems. Not only do we need to prepare students academically, but we must also provide students with opportunities to learn about different career options in order to know what future educational and career path they wish to pursue and develop that plan. Daggett (2007) states that CTE programs and the arts are the way to deliver curriculum to youth. Our educational system must adapt to how high school students learn, in preparing high school students for their future careers. According to Daggett,

youth are digital learners, multimedia savvy, can find and manipulate data, analyze data and images, and multitask faster than previous generations. It is with this knowledge that educators must incorporate CTE as a viable and valuable component in every high school student's educational experience.

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APPENDIX A:

Letter of Permission

Letter of Permission to the Superintendent of the Southern California Regional Occupational Center

Statement of the Researcher

The purpose of this study is to learn about: the demographic profile of South Bay area high school Career Technical Education students, their perceptions related to Career Technical Education, the people and other factors that influence them to enroll in Career Technical Education courses, and to solicit their opinions on which marketing methods are most appealing to high school students.

I am requesting permission to recruit students enrolled in classes at the Southern California Regional Occupational Center from the 3:45 – 6:45 and 6:45 – 9; 45 sessions to complete an online survey.

_____ _____ _____

Printed name of researcher Signature of researcher Date

Statement from the Superintendent of the Southern California Regional Occupational Center

I have had an opportunity to review the survey and survey protocol. I give my permission to the researcher, Ms. Laurie St. Gean, to recruit participants from the Southern California Regional Occupational Center and administer the survey.

_____ _____ _____

Printed name of Superintendent Signature of Superintendent Date

APPENDIX B:

Survey Instrument Used in Dr. Dave Gaunt's Dissertation

Survey of Influencing Factors and Perceptions
Wexford-Missaukee Area Career Technical Center

Please respond to the following questions to the best of your ability. Do not put your name anywhere on the form so that your responses remain completely anonymous. You may choose not to answer any question by simply leaving it blank. The survey should take less than 10 minutes to complete.

The survey is divided into four sections:

I. *Student information*
II. *Perceptions of the Career Technical Center*
III. *People who influenced you*
IV. *Other factors that influenced you*

Please complete all four sections of the survey by checking the most appropriate box and/or circling the appropriate item.

Part I: *Student information* Place a check mark next to the most appropriate response.

1. What is your gender?

☐ Male ☐ Female

2. With whom do you live? *(select only one)*

☐ Both your mother and your father
☐ Your mother and a stepfather
☐ Your father and a stepmother
☐ With father only
☐ With mother only
☐ Your mother some of the time and your father some of the time
☐ With other relatives
☐ With other adults

3. What grades do you usually get? *(select only one)*

☐ Mostly A's
☐ Mostly A's and B's
☐ Mostly B's
☐ Mostly B's and C's
☐ Mostly C's
☐ Mostly C's and D's
☐ Mostly D's
☐ Mostly D's and F's

4. For most of the time in your family, which of the following statements best describes your family situation? *(select only one)*

- ☐ Your family has a hard time getting enough money for food, clothing, and basic living costs
- ☐ Your family has just enough money for food, clothing, and basic living costs
- ☐ Your family has a few problems buying what your family needs
- ☐ Your family has no problems buying what your family needs and is able to buy special things

5. Are you currently a student at the Career Technical Center?

- ☐ Yes
- ☐ No (if No, skip question #6)

6. If you are currently enrolled at the Career Technical Center, place a check mark next to the program you are in. *(select only one)*

Business, Management, Marketing, and Technology Pathway

- ☐ Business Services Technology
- ☐ Hospitality, Retailing and Entrepreneurship

Engineering/Manufacturing and Industrial Technology Pathway

- ☐ Automotive Service
- ☐ Building Trades
- ☐ Electronics
- ☐ Heavy Equipment Mechanics
- ☐ Machine Trades
- ☐ Robotics and Automation
- ☐ Small Engines
- ☐ Welding and Metal Fabrication

Health Sciences Pathway

- ☐ Allied Health Technology

Human Services Pathway

- ☐ Cosmetology

Natural Resources and Agriscience Pathway

- ☐ Agriscience and Natural Resources

Part II. *Perceptions of the Career Technical Center.* To what extent do you agree or disagree with the following statements. *Circle the appropriate number.*

I believe that the Career Technical Center is designed to serve students:	Strongly Disagree	Disagree	Agree	Strongly Agree	Don't Know
(1) who plan to go to work immediately after high school.	1	2	3	4	5
(2) who plan to join the military immediately after high school.	1	2	3	4	5
(3) who plan to go to college immediately after high school.	1	2	3	4	5
(4) who struggle academically.	1	2	3	4	5
(5) who are discipline problems.	1	2	3	4	5
(6) of all ability levels.	1	2	3	4	5

Part III. *People who influenced you.* To what extent did the following 8 people either encourage or discourage you to attend, or not to attend, the Career Technical Center. *Complete the **left side** if you **do not** attend; complete the **right side** if you **do** attend. Circle the appropriate response.*

Complete this side if you do not attend the Career Technical Center — How much did each encourage you NOT to attend?						*Possible Influential People*	Complete this side if you do attend the Career Technical Center — How much did each encourage you to attend?				
	Unsure	Not at all	Not that much	A little	A lot	(1) High school counselor		Unsure	Not at all	Not that much	A little	A lot
	Unsure	Not at all	Not that much	A little	A lot	(2) Any high school teachers		Unsure	Not at all	Not that much	A little	A lot
	Unsure	Not at all	Not that much	A little	A lot	(3) High school principal		Unsure	Not at all	Not that much	A little	A lot
Do Not Have	Unsure	Not at all	Not that much	A little	A lot	(4) Mother / female guardian	Do Not Have	Unsure	Not at all	Not that much	A little	A lot
Do Not Have	Unsure	Not at all	Not that much	A little	A lot	(5) Father / male guardian	Do Not Have	Unsure	Not at all	Not that much	A little	A lot
Do Not Have	Unsure	Not at all	Not that much	A little	A lot	(6) Brother or sister	Do Not Have	Unsure	Not at all	Not that much	A little	A lot
	Unsure	Not at all	Not that much	A little	A lot	(7) Friends		Unsure	Not at all	Not that much	A little	A lot
	Unsure	Not at all	Not that much	A little	A lot	(8) Career Tech Center staff person		Unsure	Not at all	Not that much	A little	A lot

Part IV. Other factors that influenced you. To what extent did the following 9 factors encourage or discourage you to attend, or not to attend, the Career Technical Center. *Complete the left side if you do not attend; complete the right side if you do attend. Circle the appropriate response.*

Complete this side if you do not attend the Career Technical Center — How much did each encourage you NOT to attend?						*Possible Influential Factors*	Complete this side if you do attend the Career Technical Center — How much did each encourage you to attend?					
Didn't attend	Unsure	Not at all	Not that much	A little	A lot	(1) 10th grade tour	Didn't attend	Unsure	Not at all	Not that much	A little	A lot
Didn't attend	Unsure	Not at all	Not that much	A little	A lot	(2) Field trip to CTC	Didn't attend	Unsure	Not at all	Not that much	A little	A lot
Don't have one	Unsure	Not at all	Not that much	A little	A lot	(3) High school career plan (EDP)	Don't have one	Unsure	Not at all	Not that much	A little	A lot
Didn't see any	Unsure	Not at all	Not that much	A little	A lot	(4) Marketing materials (brochures, videos)	Didn't see any	Unsure	Not at all	Not that much	A little	A lot
Didn't see it	Unsure	Not at all	Not that much	A little	A lot	(5) CTC website	Didn't see it	Unsure	Not at all	Not that much	A little	A lot
	Unsure	Not at all	Not that much	A little	A lot	(6) Time spent traveling to the CTC		Unsure	Not at all	Not that much	A little	A lot
	Unsure	Not at all	Not that much	A little	A lot	(7) Spending half of your day away from the high school		Unsure	Not at all	Not that much	A little	A lot
	Unsure	Not at all	Not that much	A little	A lot	(8) Receiving a waiver of high school credit for completing a CTC program		Unsure	Not at all	Not that much	A little	A lot
	Unsure	Not at all	Not that much	A little	A lot	(9) Receiving college credit for completing a CTC program		Unsure	Not at all	Not that much	A little	A lot

Thank you for taking the time and effort to respond to this survey. Your input will allow the Career Technical Center to better meet the needs of area students.

APPENDIX C:

Permission to Modify Dr. Dave Gaunt's Survey Instrument

Futures…discover yours

Comprehensive Career Counseling & Employee Evaluation

David Gaunt, PhD

Laurie:

I willingly grant you permission to use a modified version of my survey instrument, regarding CTE perceptions, as you embark upon your own study of high school students.

If I can be of help in any way, please let me know.

David P. Gaunt, PhD

APPENDIX D:

Survey of Influencing Factors, Perceptions and Marketing Strategies Southern California Regional Occupational Center

Please respond to the following questions to the best of your ability. The information collected will be anonymous and will provide valuable information for program planning and marketing CTE programs at the Southern California Regional Occupational Center. The survey will take 15 to 20 minutes to complete. Thank you for your assistance.

The survey is organized into five sections:

Demographic Information

Perceptions of Career Technical Education

People who influence student enrollment in Career Technical Education

Other factors that influence student enrollment in Career Technical Education

Marketing strategies to educate students about Career Technical Education

Please complete all five sections of the survey by checking the most appropriate box in response to each question.

Part I: Demographic Information

What is your gender?

Male

Female

What grade are you in?

10th grade

11th grade

12th grade

What school do you attend?

- Hawthorne High School
- Lawndale High School
- Leuzinger High School
- Lloyde Continuation High School
- Arena Continuation High School
- El Segundo High School
- City Honors High School
- Hillcrest Continuation High School
- Inglewood High School
- Morningside High School
- Palos Verdes High School
- Peninsula High School
- Rancho Del Mar Continuation High School
- Mira Costa High School
- Redondo Union High School
- Redondo Shores Continuation High School
- North High School
- Kurt T. Shery Continuation High School
- South High School
- Torrance High School
- West High School
- Other

With whom do you live? (select only one)

Mother and Father

Mother only

Father only

Mother and stepfather

Father and stepmother

Your mother some of the time and your father some of the time

Other relatives

Other adults

Mother and stepfather (part time) and with Father and stepmother part time)

Friend and their friends family

Which of the following statements best describes your family situation most of the time? (Select only one response)

Your family has a hard time getting enough money for food, clothing, and basic living costs

Your family has just enough money for food, clothing, and basic living costs

Your family has a few problems buying what your family needs

Your family has no problems buying what your family needs and is able to buy special things

What grades do you usually receive? (Select only one response)

Mostly A's

Mostly A's and B's

Mostly B's

Mostly B's and C's

Mostly C's

Mostly C's and D's

Mostly D's

Mostly D's and F's

Are your taking courses at SoCal ROC as a way to make up credits needed to graduate from high school?

Yes

No

What was your interest level in Career Technical Education courses prior to enrolling in a course?

Not At All	A Little	Somewhat	Quite A Lot	A Great Deal

How many Career Technical Education Courses have you taken at SoCal ROC or on your high school campus?

0-1

1-2

2-3

3-4

More than 5

Did you know what your Career Interest was prior to enrolling in a Career Technical Education course?

Yes

No

What do you plan to do immediately after high school? (You can select more than one response)

I plan to go to work immediately after high school

I plan to join the military immediately after high school.

I plan to go to college immediately after high school.

Joining a service organization such as the Peace Corp

Traveling

Other _____

Have you ever considered dropping out of high school?

Yes

No

If you answered yes, please explain

What course, in what Pathway, are you currently taking and have you taken in the past? (you may check more than one box)

AGRICULTURE & NATURAL RESOURCES

Floral Design I/II

Landscape/ Nursery Careers I/II

ARTS/MEDIA & ENTERTAINMENT

3 D Digital Animation

Adobe Suite– CS3

Advanced Video Game Design

Fashion Design

Film Production/Newscast Editing

Intro to Video Game Design

Media Design 1, 2, 3, 4, 5, 6

Silkscreen/ Production Art I/II

Web Page Design For Marketing and Sales

ENGINEERING, TECHNOLOGY, & INDUSTRIAL TRADES

A+ Certification

Aerospace Engineering

Aviation Careers

Automotive Systems I/II

Automotive Technician I/II

CISCO Networking Program

Civil Engineering/ Architecture

Computer Aided Drafting (Basic/ Advanced)

Computer Technician

Digital Electronics

Electronics Technology (Basic & Advanced)

Heating, Ventilation, Air Conditioning (HVAC)

Intro to Construction Careers

Major Appliance Repair

Plumbing

Plumbing Codes/ Backflow

Welding

FINANCE & BUSINESS

Administrative Office Assistant

Banking and Financial Services

Business Entrepreneur/ eBay

Business Entrepreneur Quickbooks

Business Entrepreneur/Virtual Enterprise

Computer Accounting (Basic)

Computer Accounting (Advanced)

Computer Applications (9 Week Modules)

Computer Introduction I/II

Computer Office Applications I/II

eBay/ Marketing Entrepreneur

Retail Occupations

HEALTH SCIENCE & MEDICAL TECHNOLOGY

Certified Medical Assisting (CMA)

Certified Nurse Assistant (CNA)

Conflict Resolution/Home Health Aides

Dental Assisting

Emergency Medical Technician (EMT)

Emergency Medical/ First Responder

Fundamentals of Nursing

Home Health Care

Intro to Health Careers

Intro to Pharmacy Technician

Medical Assisting (Administrative & Clinical)

Medical Assisting Clinical (4 Modules)

Medical Insurance Billing

Medical Front Office

Personal Fitness Trainer

Pet Grooming and Boarding

Pharmacy Technician

Phlebotomy

Registered Dental Assisting (RDA)

Veterinary Assistant

Veterinary Science

PUBLIC & CONSUMER SERVICES

American Sign Language I/II

Cosmetology

Developmental Psychology of Children

Hotel/Restaurant Occupations I/II

Intro to Education

Part II: Perceptions of Career Technical Education. To what extent do you agree or disagree with the following statements. Check the box with the number rating that best represents your response.

I believe that Career Technical Education Programs are designed to serve:

	Strongly Agree	Disagree	Agree	Strongly Agree	Don't Know
Students who plan to go to work immediately after high school	1	2	3	4	5
Students who plan to join the military immediately after high school.	1	2	3	4	5
Students who plan to go to college immediately after high school.	1	2	3	4	5
Students who struggle academically	1	2	3	4	5
Students who have discipline problems in high school	1	2	3	4	5
Students of all ability levels	1	2	3	4	5

Part III: People who influence Career Technical Education enrollment. To what extent did the following 9 people encourage you to enroll in Career Technical Education?

High School Counselor		Unsure	Not at All	Not that Much	A little	A lot
Any high school teacher		Unsure	Not at All	Not that Much	A little	A lot
High School principal		Unsure	Not at All	Not that Much	A little	A lot
Mother/female guardian	Do Not Have	Unsure	Not at All	Not that Much	A little	A lot
Father/male guardian	Do Not Have	Unsure	Not at All	Not that Much	A little	A lot
Brother or Sister	Do Not Have	Unsure	Not at All	Not that Much	A little	A lot
Grandparents	Do Not Have	Unsure	Not at All	Not that Much	A little	A lot
Other extended family members	Do Not Have	Unsure	Not at All	Not that Much	A little	A lot
Friends		Unsure	Not at All	Not that Much	A little	A lot
SoCal ROC Guidance Specialists		Unsure	Not at All	Not that Much	A little	A lot
SoCal ROC teacher		Unsure	Not at All	Not that Much	A little	A lot
Community member		Unsure	Not at All	Not that Much	A little	A lot

List other individuals that influenced you below:

_____

_____

_____

Part IV. Other factors that influence Career Technical Education enrollment. To what extent did the following 9 factors encourage you to enroll in or not enroll in Career Technical Education courses?

High School Career Plan	Unsure	Not at All	Not that Much	A little	A lot
Taking a course that is a-g approved	Unsure	Not at All	Not that Much	A little	A lot
Marketing materials (brochures, videos)	Unsure	Not at All	Not that Much	A little	A lot
SoCal ROC website	Unsure	Not at All	Not that Much	A little	A lot
CTE website	Unsure	Not at All	Not that Much	A little	A lot
Job shadowing someone in the field you are interested in	Unsure	Not at All	Not that Much	A little	A lot
Earning credits towards graduation requirements	Unsure	Not at All	Not that Much	A little	A lot

Part V: What do you consider the most effective marketing strategies for informing high school students about Career Technical Education? (Mark on response for each strategy listed)

Facebook	Not At All Effective	Not Very Effective	Somewhat Effective	Effective	Very Effective

SoCal ROC website					
Brochures					
Catalogues					
Presentation at your high school					
Information from a friend					
Career Day held at your high school					
Career Day held at a Community College					

What other suggestions you recommend for marketing Career Technical Education courses?

_____
_____
_____
_____

APPENDIX E:

E-mail to Experts for Validation of Survey

Hello [Name],

I'm writing to ask you to serve on an expert panel that will validate the survey used in my dissertation. Should you accept this invitation, the following will be required:

- Review an emailed version of my dissertation proposal
- Review an emailed version of my survey instrument

Your assistance is appreciated. Please let me know if you are available. The working title is "High School Students' Perception of Career Technical Education and Factors that Influence Enrollment in Programs at a Regional Occupational Center."

Thanks in advance for you willingness to assist with this project. I look forward to working with you.

Sincerely,

Laurie St. Gean

APPENDIX F:

E-mail to Experts for Validation of Survey and Interview Protocol

[Date]

Dear [Name]:

Thank you for your agreeing to be part of my doctoral study at Pepperdine University's Graduate School of Education and Psychology. As we discussed I am requesting your assistance in serving on a panel of experts to validate the survey instrument to be used in my study (enclosed).

The purpose of this study is to learn about: the demographic profile of South Bay area high school Career Technical Education students, their perceptions related to Career Technical Education, the people and other factors that influence them to enroll in Career Technical Education courses, and to solicit their opinions on which marketing methods are most appealing to high school students. High School students enrolled in classes at the Southern California Regional Occupational Center from the 3:45 – 6:45 and 6:45 – 9:45 sessions will be asked to complete an online survey.

The validation of the instrument requires that the content of the survey is aligned with the research questions as outlined in the proposal (enclosed).

After completing your review of the survey instrument please contact me by phone or e-mail to share your thoughts and suggestions for modification.

Thank you for your time and assistance with this project.

Sincerely,

Laurie St. Gean
Doctoral Student
Pepperdine University, GSEP

APPENDIX G:

Cover Letter for High School Student Informed Consent

TO: High School Students (enrolled in 03 and evening courses)

FROM: Laurie St. Gean, Deputy Superintendent

DATE:

RESEARCH: Research Request

My name is Laurie St. Gean, and I am a student in Educational Leadership and Policy at Pepperdine University. I am conducting a research project on "*High School Students' Perception of Career Technical Education and Factors that Influence Enrollment in Programs at a Regional Occupational Center"*. The purpose of this study is to learn about: the demographic profile of South Bay area high school Career Technical Education students, their perceptions related to Career Technical Education, the people and other factors that influence them to enroll in Career Technical Education courses, and to solicit their opinions on which marketing methods are most appealing to high school students.

I would like to invite you to participate in this research project if you are interested. I want you to know that the choice to participate is completely up to you. No one is going to force you to do something you are not interested in doing. Even if you start the study and decide that you are no longer interested in continuing, just let me know and you can discontinue your participation in the research project. You will not be penalized in any way if you choose not to participate or you choose to withdraw from the research project.

If you decide to participate in this research project you will be asked to complete an on-line survey consisting of 48 questions here at SoCal ROC during class time. The survey will not be coded in any way, thus your participation in this study will remain anonymous and any data collected will be confidential. You may opt out of participating in the study at any time. Information that is collected will assist SoCal ROC in:

- Developing effective ways to market CTE courses
- Identifying target audience for marketing purposes
- Understanding the student population that is enrolling in CTE programs
- Understanding who and what factors influence students to enroll in CTE programs
- Identifying programs to offer high school students
- Completing the SoCal ROC WASC accreditation Self-Study

When the results of this study are published or presented to professional audiences, the names of the people who participated in the study will not be revealed.

Your parent/guardian must give you permission in order for you to participate. Please sign the attached "Informed Consent for Participation" form if you are willing to participate and have your parent or guardian sign giving you permission to participate in the research study. Both of these forms are attached to this letter. Return the signed form to your instructor in a sealed envelope (attached) no later than _____.

Once I have received the "Informed Consent for Participation" form signed by you and the parent permission form signed by your parent or guardian you will be assigned a date and time to report to a computer lab at SoCal ROC to complete the survey. The survey will take approximately 20 minutes. You will remain anonymous in that responses to the survey will not be associated with you in any way. The questions will provide the data

that will be used in this research project.

If you have any additional questions regarding this study, you may contact:

Laurie St. Gean at xxx)xxx-xxxx.

Researcher's Supervisor: Dr. Linda Purrington at xxx)xxx-xxxx.

Respectfully,

Laurie St. Gean

Deputy Superintendent

SoCal ROC

Attachments:

Informed Assent for Participation in Research Activities

Parent Consent for Son/Daughter's Participation in Research Activities

APPENDIX H:

Informed Assent for Participation in Research Activities

Participant: _____

Principal Investigator: Laurie St. Gean

Title of Project: High School Student's Perception of Career Technical Education and Factors that Influence Enrollment in Programs at a Regional Occupational Center

1. I _____ , agree to participate in the dissertation research study conducted by doctoral student Laurie St. Gean, from the Educational Leadership and Policy Program at Pepperdine University. I understand that I may contact Laurie St. Gean's supervisor Dr. Linda Purrington at xxx)xxx-xxx if I have any questions or concerns regarding this study.

The overall purpose of this research is to learn about: the demographic profile of South Bay area high school Career Technical Education students, their perceptions related to Career Technical Education, the people and other factors that influence them to enroll in Career Technical Education courses, and to solicit their opinions on which marketing methods are most appealing to high school students. I have been asked to participate in this study because I am a high school student attending a class at SoCal ROC during the 3:45 pm – 6:45 pm or 6:45 pm – 9:45 pm session.

I understand that my participation will require me to complete an on-line survey of 48 questions that will take approximately 20 minutes.

My participation in the study will take place on one day during the 2009/2010 school year. I will be scheduled a time (during my scheduled class time) to report to a

computer lab at SoCal ROC to complete an on-line survey. The survey will not be coded in any way thereby maintaining my anonymity. The data collected from the survey questions will be used to learn about the demographics of students enrolled in Career Technical Education courses, student's perceptions related to Career Technical Education, what factors influence students to enroll in Career Technical Education courses, and to solicit students opinions on which marketing methods are most appealing to high school students.

I understand that the possible benefits to myself or society from the research are to assist SoCal ROC in:

- Developing effective ways to market CTE courses
- Identifying the target audience for marketing purposes
- Understanding the student population that is enrolling in CTE programs
- Understanding who and what factors influence students to enroll in CTE programs
- Identifying programs to offer high school students
- Completing the SoCal ROC WASC accreditation Self-Study

2. I understand that the researcher will work with me to ensure that there is minimal risk, discomfort, and inconvenience, identifying and addressing any concerns I may have. I understand that harm to human subjects is not limited to physical injury, and that there are certain risks and discomforts that might be associated with research. Examples of these risks might be fatigue, boredom and apathy.
   I believe the risks of this study are minimized and are reasonable in relation to the anticipated benefits of the study. I understand that I have the right to refuse to answer any question, and to discontinue participation at any time.

3. I understand that my participation is voluntary and that I may refuse to participate and/or withdraw and discontinue participation in the project or any activity at any time without penalty or loss of benefits to which I am otherwise entitled. I also understand that the researcher may find it necessary to end my participation in this study.

4. I understand that the investigator will take all reasonable measures to protect confidentiality of my records and my identity will not be revealed in any publication that may result from this project. The confidentiality of my records will be maintained in accordance with applicable state and federal laws. Under California law, there are exceptions to confidentiality, including suspicion that a child, elder, or dependent adult is being abused, or if an individual discloses an intent to harm him/herself or others.

5. If the findings of the study are published or presented to a professional audience, no personally
   identifying information will be released. The data that is collected will be maintained in a secure manner for three years at which time the data will be destroyed.

6. I understand that the investigator is willing to answer any inquiries I may have concerning the research herein described. I understand that I may contact Laurie St. Gean at xxx)xxx-xxxx or, if I have other questions or concerns about this research. If I have questions about my participation in this research project, I understand that I can contact Dr. Linda Purrington, Pepperdine University Graduate School of Education and Psychology, 6100 Center Dr. 5th Floor, Los Angeles CA, 90045.

7. I will be informed of any significant new findings developed during the course of my participation in this research which may have a bearing on my willingness to continue in the study.

8. I understand that I will not receive any compensation, financial or otherwise, for participating in this study.

9. I understand to my satisfaction the information regarding participation in the research project. All my questions have been answered to my satisfaction. I have received a copy of this informed assent form which I have read and understand.

I hereby agree to participate in the research described above.

_____

Participants Signature

_____

Date

I have explained and defined in detail the research procedure for which the subject agreed to participate in this research study. Having explained this and answered any questions, I am cosigning this form and accepting this person's assent.

_____

Principal Investigator

_____

Date

APPENDIX I:

Parent Consent for Son/Daughter's Participation in Research Activities

Participant: _____

Principal Investigator: Laurie St. Gean

Title of Project: High School Student's Perception of Career Technical Education and Factors that Influence Enrollment in Programs at a Regional Occupational Center

1. I _____ , give my permission for my son/daughter to participate in the dissertation research study conducted by doctoral student Laurie St. Gean, from the Educational Leadership and Policy Program at Pepperdine University. I understand that I my contact Laurie St. Gean's supervisor Dr. Linda Purrington at xxx)xxx-xxxx if I have any questions or concerns regarding this study.

The overall purpose of this research is to learn about: the demographic profile of South Bay area high school Career Technical Education students, their perceptions related to Career Technical Education, the people and other factors that influence them to enroll in Career Technical Education courses, and to solicit their opinions on which marketing methods are most appealing to high school students. My son/daughter has been asked to participate in this study because my son/daughter is a high school student attending a class at SoCal ROC during the 3:45 pm – 6:45 pm or 6:45 pm – 9:45 pm session.

I understand that my son/daughters participation will complete an on-line survey of 48 questions that will take approximately 20 minutes.

My son/daughter's participation in the study will take place on one day during the 2009/2010 school year. They will be scheduled a time (during their scheduled class time)

to report to a computer lab at SoCal ROC to complete an on-line survey. The survey will not be coded in any way thereby maintaining my son/daughters anonymity. The data collected from the survey questions will be used to learn about the demographics of students enrolled in Career Technical Education courses, student's perceptions related to Career Technical Education, what factors influence students to enroll in Career Technical Education courses, and to solicit students opinions on which marketing methods are most appealing to high school students.

I understand that the possible benefits to my son/daughter or society from the research are to assist SoCal ROC in:

- Developing effective ways to market CTE courses
- Identifying the target audience for marketing purposes
- Understanding the student population that is enrolling in CTE programs
- Understanding who and what factors influence students to enroll in CTE programs
- Identifying programs to offer high school students
- Completing the SoCal ROC WASC accreditation Self-Study

2. I understand that the researcher will work with my son/daughter to ensure that there is minimal risk, discomfort, and inconvenience, identifying and addressing any concerns I may have. I understand that harm to human subjects is not limited to physical injury, and that there are certain risks and discomforts that might be associated with research. Examples of these risks might me fatigue, boredom and apathy.

3. I believe the risks of this study are minimized and are reasonable in relation to the anticipated benefits of the study. I understand that my son/daughter has the right to refuse to answer any question, and to discontinue participation at any time.

4. I understand that my son/daughter's participation is voluntary and that I may refuse to have them participate and/or withdraw my consent and discontinue their participation in the project or any activity at any time without penalty or loss of benefits to which they are otherwise entitled. I also understand that the researcher may find it necessary to end my son/daughter's participation in this study.

5. I understand that the investigator will take all reasonable measures to protect confidentiality of my son/daughters records and their identity will not be revealed in any publication that may result from this project. The confidentiality of my son/daughters records will be maintained in accordance with applicable state and federal laws. Under California law, there are exceptions to confidentiality, including suspicion that a child, elder, or dependent adult is being abused, or if an individual discloses an intent to harm him/herself or others.

6. If the findings of the study are published or presented to a professional audience, no personally identifying information will be released. The data that is collected will be maintained in a secure manner for three years at which time the data will be destroyed.

7. I understand that the investigator is willing to answer any inquiries I may have concerning the research herein described. I understand that I may contact Laurie St. Gean at xxx-xxx-xxxx,if I have other questions or concerns about this research. If I have questions about my son/daughter participation in this research project, I understand that I can contact Dr. Linda Purrington, Pepperdine University Graduate School of Education and Psychology, 6100 Center Dr. 5th Floor, Los Angeles CA, 90045.

8. I will be informed of any significant new findings developed during the course of my son/daughter's participation in this research which may have a bearing on my willingness to have them continue in the study.

9. I understand that my son/daughter will not receive any compensation, financial or otherwise, for participating in this study.

10. I understand to my satisfaction the information regarding participation in the research project. All my questions have been answered to my satisfaction. I have received a copy of this informed consent form which I have read and understand.

I hereby consent to have my son/daughter participate in the research described above.

_____

Students Name

_____

Signature of Parent/Guardian

_____

Date

I have explained and defined in detail the research procedure for which the parent/guardian granted consent for their son/daughter to participate in this research study. Having explained this and answered any questions, I am cosigning this form and accepting this person's consent.

_____

Principal Investigator

_____

Date