High School Students Beliefs and Attitudes about Career and Technical Education

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Abstract

The purpose of this study is to determine how U. S. high school students feel about Career and Technical Education. The general hypothesis is the belief that high schools offering quality CTE courses will not only provide students with crucial technical skills they need for the 21 century, they will also acquire knowledge needed to move onto higher education. Most importantly though, they will maintain or regain interest in their education and utilize these CTE courses to create goals for themselves. The belief that this hypothesis is correct will then, hopefully, lead to a lower dropout rate.

This qualitative research was carried out through a questionnaire, which was handed out to random students in three different high schools in the Southern California region. Eighty-three students, in all, responded to the questions. The students answered “yes” or “no” questions about their attitudes toward CTE, and then returned the questionnaire anonymously to the research team.

The data was tabulated and complied into various charts (based on gender, grade, and GPA) then further analyzed.

The results of the study lead to the conclusion that the majority of students have a positive attitude toward CTE. Most students responded that they believe CTE courses make school more interesting. This was true for both male and female students.

Another factor that stood out is that the majority of students who responded favorably to CTE had average GPA’s.

The purpose of this study is to offer high school administrators an idea about student attitudes and beliefs about CTE courses so that they can make decisions about what type of courses to offer so they can maintain student interest.

INTRODUCTION

*General Statement problem*:

The general purpose of the study was to measure if offering high school students courses in Career and Technical Education would assist and encourage the students to stay in school. What specifically do students want from a CTE program, do they feel their CTE program is technologically relevant, or do they feel that is necessary at all? What are high school students’ attitude and belief about vocation or CTE?

*Review of Related literature*:

 The federal government has an important role to play in continuing the reform efforts already begun in Career and Technical Education (CTE), yet much more can be done. By promoting a new vision for CTE, the federal government will have an impact not only on how federal dollars are spent, but also on how the bulk of the state and local funds for CTE are spent as well. Changes in the economy, work, and society demand high school student are prepared both for careers and postsecondary education (Brand, 2003).

 Many studies have been done on dropping out looking at both academic and social risk factors at the time the student left school. By using the National longitudinal Study of Youth this study can assess a student’s life events over time. Importance on social or academic realms may be different to students at different times in their lives. The study specifically analyzes if enrollment in CTE classes as a young freshman affects dropout rates. This is important because most CTE offerings are made to juniors and seniors when it may be too late to use these courses as motivation to stay in school (Plank et al 2008).

 The past division between preparation for college and preparation for work has become a false dichotomy. Every high school student must meet higher academic standards in secondary and postsecondary education and be prepared for the challenges of work, continued learning, and citizenship. But the high school experience for many students, particularly those in large, urban high schools, is very negative, and it does not prepare them for work or further learning. In addition, many students find school boring and irrelevant to their future plans (Brand, 2003).

 Plank et al (2008) article hypothesized four outcomes. The first is that students were more likely to drop out with higher ratios of CTE courses due to the nature of “tracking” and low expectations. The second is that CTE courses would be beneficial, keeping students in school because of relevance and satisfying choices. The third hypothesis is that no there will be no effect on dropping out because there is no correlation between dropping out to class offering. The fourth is that there is a curvilinear relationship where the ratio of CTE to academic courses will lessen the likelihood of dropping out to some point at which it will than increase the chance of dropping out.

Gentry et al (2007) CTE offer students the opportunity to explore interests that exist outside the traditional academic subject areas found in most high schools. Students, both general and talented, expressed satisfaction concerning their chosen area of study at the CTE center. They acknowledged the meaning they found in their CTE area of study and their enjoyment in being able to study with others who shared an interest in the area of study. As evidenced by the program areas we investigated and the comments the students made about their areas of study.

 As education policymakers wrestle with the complexities of school reform and ensuring a well- educated and skilled workforce, career and technical education (CTE) continues to surface as a tested strategy to engage students in their learning and prepare them for postsecondary education and the complex world of the 21st Century (Brand, 2008).

Today’s society places a strong demand on development of competence for the workforce. Traditional methods will not be able to effectively bring students to the expected level of competence for the workplace. Traditional instruction is topic-based and usually involves teaching all the prerequisites before introducing the real-world task or problem for the student to work on. The weakness is its assumption that learners will be able to apply the knowledge acquired in the different topics to solve real-world tasks or problems. Such traditional practice faces danger of breeding a group of students who lack the flexibility to function well or transfer learning to the competitive workplace (Choo, 2007).

Comprehensive professional development is rarely offered to graduate students much less high school students, yet would assist students to obtain employment and prosper in their careers (Needelman & Ruppert, 2006).

 To be successful in our complex world and workplaces, students must develop appropriate reading, writing, and mathematical knowledge and skills. But students need other skills, too. They need to be fluent in the use of information technologies, know how to apply knowledge to solve problems, and possess what are commonly referred to as 21st Century Skills.1 High schools, for the most part, however, are not currently structured to help students learn these types of skills (Brand, 2008).

*Hypothesis*:

High school students’ beliefs and attitudes about career and technical education are positive. Students want more CTE classes and feel it will prevent students from dropping out of high school.

*Definitions of terms*:

 The growing economic importance of college raises questions about what the role of vocational education should be. The 1990 federal law defines vocational education, for purpose of federal funding, as preparation “occupations requiring other than baccalaureate or advance degree.” On September 25, 1990, President George Bush signed into law the Carl D. Perkins Vocational and Applied Technology Act. The new name – Vocational and Applied Technology Education – signaled congressional interest in emphasizing the application of the academic and vocational skills necessary to work in a technologically advanced global society (Gordon, 2003).

 In this study, we examined data from quantitative responses from students identified as special education in their areas of study and responses general education students. Career and Technical Education (CTE) has existed as a federally funded program in various forms since the passage of the Smith-Hughes Act of 1917. CTE has evolved over time from the more general vocational education courses of wood, metal, and auto shop to include topics such as criminal justice, education, and medical sciences. The goal of CTE is to prepare students for postsecondary school or college (Gentry et al, 2007).

*Significance of the proposed study*:

If students are not performing well and has no other interests, s/he may find external attachments and choose not to stay in school. CTE courses need to be offered to students as early as freshman year to help those students get involved. Traditionally, CTE programs are offered to average and below average students to increase school attachment and to offer job skills to those that most likely would not choose to go to college. This study proves most students want to benefit from programs such as this that apply a hands-on experience with meaningful vocational applications.

The findings from this quantitative were enlightening when the students expressed their lack of knowledge in regards to if their high school experiences offered CTE courses. We found further research on career and technical education in high school needs to be studied. As we hope the findings of this study would be used to encourage more students to participate in learning experiences at the secondary level.

DESIGN AND METHODOLOGIES

*Subjects*

 The sample consisted of 83anonymous high school students from 3 different southern California high schools. The students were chosen randomly and voluntarily because the goal of the researchers was to collect data from students of different ages, with varied academic success and experiences from the total population of the school. It was important to the research to have students from different types of schools as well, so the three high schools were chosen based on structure and familiarity to the researchers. Of these three schools, one is a traditional, large public high school; the second is a traditional small public high school in a rural area; and the third is a small public charter high school that is structured around an early college program. After randomly choosing students, the student sample consisted of the following:

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Male | Female | 9thgrade | 10grade | 11grade | 12grade | HighGPA | Avg. GPA | Low GPA |
| Number of students | 38 | 45 | 11 | 44 | 11 | 17 | 26 | 49 | 8 |

*Instrumentation / Data Collection*

 Previous research has examined students that are already in or had completed CTE programs. This research specifically wanted to measure the beliefs of students at the local high schools that may or may not already have had an experience with CTE opportunities. Therefore a decision was made by the researchers to make a short one-page questionnaire that could be randomly handed out to students and quickly completed voluntarily.

All three researchers suggested questions for the questionnaire. The purpose of the questionnaire was to gather basic statistical information (sex, grade level, grade point average, ethnicity), to measure a student’s prior and current experiences with CTE, and to measure the student’s beliefs about the relationship between CTE and student/school motivation. Corrine Averill drafted a questionnaire of 13 multiple choice style questions that allows a participant to check the box of the answer that applies to them, and then piloted the questionnaire on teen-aged family members. Revisions were made to simplify the language and make it more appealing for a teenaged audience. A final questionnaire was approved by all researchers (Appendix A). Corrine Averill then drafted a letter of consent for each member’s use to obtain administrator’s permission at each school site (Appendix B).

Once permission was obtained, the researchers went to the school of his or her familiarity and randomly asked students to voluntarily complete the questionnaire. Students completed some questionnaires during their lunch hour and some during the first five minutes of their class. Joe Corona obtained data from two of the three different schools to help avoid scheduling conflicts. The researchers went to a high school with the intent to survey 35 random students each for a total of 105 participants. After the data was reviewed the total sample was reduced to 83 participants due to incomplete, non-returned, or illegible questionnaires.

*Data Treatment Procedures*

 A tally chart was developed to help the researches categorize and evaluate the data (Appendix C). Using the tally chart, the researchers counted the number of positive, negative, and neutral responses to each question by subgroups. The subgroups were determined by the responses of the first three questions of the questionnaire. One table was completed for each subgroup to find patterns and compare beliefs between gender groups, grade levels, and achievement levels. Although data on ethnicity were collected, the researchers chose not to make socio-economic status a focus of this study.

Four categories, or essential questions, were chosen from this questionnaire: 1) Are you personally interested in CTE? 2) Do you believe all schools should offer CTE? 3) Do you believe CTE could make school more interesting for students? 4) Do you believe that having CTE choices could keep students from dropping out of school? The responses on the middle portion of the questionnaire were used to measure personal interest of each participant towards CTE courses. For the purposes of this analysis, if a participant stated a positive interest on any of those questions, a positive response was recorded under the category of “Personally Interested in CTE”. The last three questions of the questionnaire were truly the essence of what this research project was about, and these questions make up the other three essential questions.

Due to the random collection of data, each subgroup had a different number of participants. To have comparative measures, the data were converted into percentages of positive responses per subgroup for each of the four essential questions. For example, if a subgroup of 10th grade students had 40 participants, of which 20 gave a positive response to Essential Question 2 “Do you believe all schools should offer CTE?” Essential Question 2 would be given a score of 50% for that subgroup and one could deduce that 50% of all 10th grade students believe all schools should offer CTE courses.

After analyzing each subgroup, a general measure of all students can be deduced by measuring the positive responses across all subgroups. Therefore the mean, median and mode across subgroups were computed to measure the overall attitudes and beliefs of high school students towards CTE.

*Presentation of Findings*

 The findings show that high school students are considerably interested in taking CTE courses. As one can see by Chart 1, the majority of students across the subgroups show a positive response to the question, “Are you personally interested in CTE?” Only one subgroup, those in 12th grade, had less than a 79% positive response. Two subgroups, 9th grade and 11th grade, had 100% positive responses to this question. On average, 87.67% of high school students are interested in CTE as shown by Chart 5.

Chart 1

Chart 2

When asked if all schools should offer CTE, interestingly the numbers go down. On average, only 76.78% of high school students believe that all schools should offer CTE. Could this be because although a student finds himself interested in CTE, he feels it is not enough to force all schools to provide CTE? This should be further studied. Again the 12th grade students show less positive response, but of the students with the lowest GPA only 50% feel schools should offer CTE. According to the research (Plank 2008) these are the students that are more likely to drop out and are in greater need of CTE as a motivator. One would question why then, only 50% show a positive response.

High school students agree that CTE can make school more interesting. Chart 5 illustrates that on average 90.78% of students gave a positive response. All 10th grade students responded positively. This is very important because when students find the subject matter more interesting they are more likely to be involved (Gentry et al 2007). Students with the lowest GPA and 12th grade students again have the least positive responses.

Table 3

The least positive response was for the question “can having CTE choices keep students from dropping out of school?” across all subgroups. An average of 72% of high schools students believe that having CTE will prevent dropouts. Although this number is high, when compared to the rest of the data, it doesn’t hold up. If students are interested in CTE, believe it makes school more interesting and that schools should offer it, why do the students not believe it will help keep kids in school? This, too, needs further investigation. If personal interviews were conducted, what would the students tell us about those that dropout? Is there nothing that can be done from the side of education to prevent high school dropouts?

Table 4

 A pattern has emerged amongst the 12th grade students and low GPA students. When viewing all subgroups in regards to the essential questions, these two sub groups always show the least positive responses. It is necessary then to review them in comparison to similar subgroups. When comparing the essential questions by grade level, one can see that the 12th grade student’s beliefs do not follow the trend of the other students. With the exception of “…making school more interesting” the 12th grade students have least positive responses when the other grade levels have the most. Could it be that 12th grade students have shown to be successful without CTE? Maybe the 12th grade students are in the home stretch and are too busy to reflect on their high school experience. Further clarification needs to be made.

Table 5

Table 6

Table 7

Table 8

When comparing the student by academic achievement, the numbers show that the students with the average GPA’s appear to have more interest and more positively than the high achieving and low achieving students. Although 96% of high achieving students respond the CTE makes school more interesting, only 72% believe all schools should offer it. Similarly, 88% of low achieving students believe CTE will make school more interesting, but only 50% believe it should be offered at all schools (Chart 7).

The data shows no significant difference of beliefs and attitudes towards CTE between genders (Chart 8). Male and female responses are no more than one to three percent difference.

*Limitations of the Design*

There are many limitations to this design. Foremost, the choice to randomly survey students did not give equal numbers of participants across subgroups. This may skew the statistics. Another limitation was time. With more time, an in depth analyses of subject school programs and the socio-economic status of participants could have further helped to understand the attitudes and beliefs of students towards high school dropouts and how CTE could most benefit them.

CONCLUSIONS

Career and Technical Education is a collective term in high schools to identify curriculum programs designed to prepare students to acquire an education and job skills, enabling them to enter employment immediately upon high school graduation.

CTE has a long and rich history in American public schools, largely due to federal legislation and funding. The beginning of federal influences in shaping vocational education began with the Smith-Hughes Act of 1917. This legislation was enacted to prepare youth for jobs resulting from the industrial revolution and to provide them with an alternative from the general curriculum of schools, which were too exclusively literary in spirit, scope, and methods.

A new Career and Technical Education is integral to reform the American high school. The public demands and the students need relevant, contemporary career information, knowledge, and skills. Drawing from our research of student opinion, the student attitude toward high school

Career and Technical Education appear to be:

1. CTE can make school more interesting

2. However, all schools should not be mandated to provide CTE

3. Many students are personally interested in CTE

4. CTE could possibly prevent dropouts but this belief is not highly observed

Even though there were a number of limitations in the design of this study, hopefully there is substantial, conclusive evidence to show that students are indeed interested in CTE and view this field as important to their futures. There is a general belief that vocational studies have been regulated in many high schools to special education and non-college bound students. Hopefully, the data from this research will change the perception that CTE is provided only for a specific sector of the student body. These courses should be taken seriously and expanded to meet the needs and interests of every student subgroup.

RECOMMENDATIONS FOR FURTHER RESEARCH

Research on the effectiveness of CTE and its role in maintaining career and graduation orientated goals for high school students seem fairly limited. Outside of our own findings, locating studies and articles focused on learning the thoughts and opinions of students about Career and Technical Education was a complicated task. Little research has been done to assess CTE’s impact on dropout rates.

Furthermore, our research had limitations, which could be expanded upon. For example, while a high percentage of students agreed that CTE is interesting and makes school more interesting, the number of students that believe CTE should be offered at all schools and that CTE prevents dropouts, decreases. We were not able to specify the cause of this discrepancy. Finding there as on behind these answers could be another area of research.

Further research could also be conducted to determine the effectiveness of CTE in preparing students for higher education and the workforce after graduation. Studies could also be conducted to find what type of technological courses are best suited for students in the computer-age and what types of courses or career fields students are interested in learning more about.

CTE, if properly researched and reformed, can evolve into a different, but equally successful career path for students on the brink of dropping out of high school or who are not college-bound.

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**INFORMED CONSENT of Administration**

The study in which you are being asked to participate is designed to investigate high school student’s beliefs and attitudes towards Career and Technical Education. Corrine Averill, Rosemarie Rascon, and Joe Corona are conducting this study under the supervision of Prof. Enrique Murillo, Jr., Professor of Educational Psychology, California State University, San Bernardino. This study has been approved by the Institutional Review Board, California State University, San Bernardino.

**PURPOSE:** This is an introductory research project for CSUSB’s EDUC 607 Introduction to Educational Research. The purpose of this research project is to identify how students feel about Career and Technical Education (CTE), so to further understand the affect it has on student motivation and retention as well as CTE’s place in current and future curriculum.

**DESCRIPTION:** Students from three southern California high schools will be asked to voluntarily complete an anonymous questionnaire regarding CTE during the first 5 minutes of class. The data collected will then be evaluated by three CSUSB students using multi-variance analysis to measure the value of CTE to high school students. The findings will be presented only to CSUSB students enrolled in EDUC 607.

**PARTICIPATION:** Participation is voluntary, refusal to participate will involve no penalty or loss of benefits to which the subject is otherwise entitled and the subject may discontinue participation at any time without penalty or loss of benefits, to which the subject is otherwise entitled.

**CONFIDENTIALITY OR ANONYMITY:** Names will not be asked nor collected on any piece of data or questionnaire. All questionnaires will be securely kept in a locked drawer and analyzed data will be stored in a password encrypted electronic file. Results of this study will be made available to administrators and enrollees of EDUC 607.

**DURATION:** The expected duration of the subject's participation is 5-10 minutes.

**RISKS:** There are no foreseeable risks to the participant.

**BENEFITS:** Students may be introduced to the availability of CTE. Students may begin reflecting on their educational and career paths.

**VIDEO/AUDIO/PHOTOGRAPH: NOT APPLICABLE**.

**CONTACT:** Please contact us with any questions about the research and research subjects' rights.

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**RESULT**S**:** Results can be obtained December 31, 2010 through Cal State San Bernardino, School of Education, EDUC 607. This is an educational exercise and these results are not intended for publication.

I have read this informed consent and authorize the aforementioned researchers to distribute and collect questionnaires to voluntary students.

**SIGNATURE:­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

TITLE:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

DATE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Yes | No | Maybe | I do not know |
| Has anyone at your school discussed career education options with you? |  |  |  |  |
| Does your school offer CTE |  |  |  |  |
| Have you taken CTE Courses |  |  |  |  |
| Are you interested in CTE |  |  |  |  |
| All schools should have CTE |  |  |  |  |
| CTE makes school interest in |  |  |  |  |
| CTE will keep kids from dropping out of HS |  |  |  |  |