CTE Students' Perceptions of Preparedness for Post-Secondary Opportunities

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Abstract
The recent passing of House Bill 5 (HB5) in Texas has renewed interest in CTE programs and in the importance of preparing students for college and careers. Research indicates that CTE programs are effective in decreasing dropout rates, increasing attendance, increasing student grades, and encouraging students to pursue careers and post-secondary education. This study was conducted using quantitative analysis to determine if there is a relationship between the perceptions of the student's preparedness for college or university, trade school, or a career, and five factors of the CTE endorsement area. The five factors researched were curriculum, extracurricular activities, facilities, teacher knowledge, and administrator support. The study utilized a survey research instrument that was administered to high school seniors enrolled in a CTE course at one of two south central Texas high schools. Analysis of data determined that there are significant differences in specific endorsement areas on student's perceptions of preparedness. Results can be utilized by educators and administrators to implement components of House Bill 5 and to strengthen CTE programs across south central Texas.

Introduction
Research indicates that Career and Technical Education (CTE) programs are effective in decreasing dropout rates, increasing attendance, increasing student grades, and encouraging students to pursue careers and post-secondary education. The purpose of this study was to determine CTE students' perceptions of preparedness for post-secondary opportunities. This study was conducted using quantitative analysis to determine if there is a relationship between the perceptions of the student's preparedness for college or university, trade school, or a career, and five factors of the CTE endorsement area. The five factors researched were curriculum, extracurricular activities, facilities, teacher knowledge, and administrator support. It was determined that there is a significant difference between the Public Service and Business and Industry Endorsement area on students' perceptions of preparedness for higher education in the areas of facilities and curriculum. There is a significant difference between the Public Service and Business and Industry Endorsement area on students' perceptions of preparedness for careers in the area of teacher knowledge. Lastly, there is a significant difference between the Public Service and Business and Industry Endorsement area on students' perceptions of preparedness for vocational or trade schools in the areas of facilities and teacher knowledge. Data collected from this study can be utilized to strengthen CTE programs.

Texas school leaders in Career and Technical Education (CTE) have continuously been at the forefront of educational reform. CTE programs have strived to provide students with the tools needed to become talented and skilled employees. Recent movements have led CTE leaders and government officials to call for increased rigor and relevance in CTE courses. These leaders have promoted the benefits of Career and Technical Education and aimed to evaluate and make progress towards improving CTE programs. While it is well known that CTE courses prepare students for college and careers (Lakes, 2007; Haniford, 2008), it is unknown if the students enrolled in these courses perceive themselves as ready to enter the workforce, traditional higher education, or vocational schools.

The purpose of this study was to determine senior students' perceptions of preparedness for post-secondary education or the workforce, in their CTE field of study. A ten point Likert Scale survey was administered to high school seniors who were enrolled in a CTE course to determine their perceptions of preparedness in five post-secondary goal areas. The five areas students were surveyed on are curriculum, extracurricular activities, facilities, knowledge of the teacher, and administrator support. Certifications and hands-on experience are integral and required portions of CTE curriculum, and provide students with real life applications for the curriculum. Gutek (2004) explains that education is not merely about metaphysics and curriculum, but it should also encompass epistemology, the relationships between humans, culture, and society. CTE programs give students the opportunity to gain the skills necessary to interact in the real world. This is why it is essential to determine whether high school seniors enrolled in CTE courses perceive themselves as prepared for their post-secondary goals.

Review of Literature
Numerous studies have been conducted to determine the effectiveness of CTE programs on student success. A study conducted by Smith indicated that providing a rigorous curriculum to all CTE students is essential to their success regardless of their postsecondary plans (2012). According to Smith, CTE is an essential tool to allow students the opportunity to "explore career options, remain engaged in school, gain skills that are broadly useful in the labor market, and prepare for further study" (2012, p.15). Haniford, (2008) indicated that while, 67% of CTE instructors stated students need to make real life connections that relate to their career goals, only 45% of college preparatory teachers saw this as important. Kwong (2010), concluded that students enrolled in career academies are more likely to experience greater success on standardized mathematics tests, higher grade point averages and feel more like a family than students who are not enrolled in career academies. Alonzo (2011) determined that CTE programs have a beneficial impact on student graduation rates. Research indicated that students who were listed as low socioeconomic status or who were enrolled in limited English proficiency, English as a second language, and parenting education programs along with a CTE program had higher graduation rates than students enrolled in these programs without CTE program participation (Alonzo, 2011, p. 110).

Connecting education to real life has long been a focus in educational research and reform. Dewey first indicated a need to connect these two integral parts of education in 1938. Roberts describes Dewey's theories of experiential learning as "people living in a world surrounded by people and other things that are a result of previous human experiences, these experiences

construct knowledge, as we know it" (2003, p. 4). Further research suggests that linking curriculum to real life student experiences increases the student's desire to learn and enhances their level of engagement (Loera, Nakamoto, Joo Oh, & Rueda, 2013). CTE programs offer curriculum based on real world experiences, combined with the needs of local industries, which allow for the creation of programs customized to the current needs of the local area (Rhodes, 2014).

This is more likely to peak their interest, causing greater engagement and retention of information. In fact, research conducted by Alonzo (2011) indicates that students who were listed as low socioeconomic status or who were enrolled in limited English proficiency, English as a second language, or parenting education along with CTE had higher graduation rates than students enrolled in these programs without CTE participation. The sub populations listed above are typically considered hard to reach or at risk students.

Other studies indicate a link between students enrolled in CTE courses and lower high school dropout rates. The two leading reasons why students drop out of high school are lack of interest and lack of support for education (Bloomfield, Foster, Hodes, Konopnicki & Pritz, 2013). According to the Association of Career and Technical Education (ACTE), the national completion rate for students enrolled in CTE courses is 90.81% of students (2014). This should be compared to the national completion rate for high school students of 74.9% (ACTE, 2014). Bloomfield et. al. (2013) describe the factors that decrease dropout rates as including a strong relationship between student and teacher, personalized instruction, and mentoring, all of which are characteristics of quality CTE programs. A study on student perceptions of CTE programs noted that, of the respondents enrolled in CTE programs, only 10% had ever considered dropping out of high school at some point (StGene, 2010). Research suggests that a combination of one CTE course for every two academic courses will decrease a student's likelihood of dropping out of high school (Plank, DeLuca, & Estacion, 2008). This is due to the combination of emotional, behavioral and cognitive engagement that a student experiences when combining CTE programs with academic programs (Plank, DeLuca, & Estacion, 2008).

While the majority of American high school students indicate they have a strong desire to continue their education through college, the reality is that many students do not attend college, making their high school training even more essential. StGene (2010) indicated that 32% of students surveyed who were enrolled in CTE courses had perceived CTE programs to be for students who do not plan on attending college, but rather plan on going straight to the workforce. Of these same students, 54% of them indicated they planned to attend a 2-year college after graduation from high school (St Jean, 2010). According to Schwartz (2014), 90% of CTE students indicate a desire to pursue a postsecondary education and 70% of students will actually enroll in college level coursework. The numbers, however, are far less favorable for completion. Of the 70% of students who enroll in college level coursework, only 32% will have completed a four-year degree by their mid-20's, and only another 10% will ever complete a two-year degree (Schwartz, 2014). CTE courses provide students with hands-on education while meeting the individualized needs of each student. This increases student engagement which, in turn, significantly decreases dropout rates (Closs, 2010). Providing students with a rigorous academic setting, paired with a valuable CTE certification can equip students for success.

While many opponents criticize the decreased rigor of math, many proponents applaud the efforts to recognize students who are interested in both college and career readiness. The ability of students to choose a pathway of interest, and of schools to offer CTE programming to replace traditional core courses has many excited about the opportunities that exist for students. According to Smith (2012), CTE is an essential tool allowing students the opportunity to "explore career options, remain engaged in school, gain skills that are broadly useful in the labor market, and prepare for further study" (p. 15). Research indicates that integration of academic curriculum and CTE curriculum can increase student motivation and achievement, and help reduce dropout rates (Handy & Braley, 2012). Smith, (2013) indicates Carneval, the director of Georgetown University's Center on Education and the Workforce was quoted by Smith as stating "it is becoming a problem because we keep upping the ante and standards never get high enough… at some point no one is going to graduate from high school, except the two kids that are going to Harvard" (2013). Smith (2013) also quoted Stuart, an assistant superintendent of Nacogdoches Independent School District, as she testified to the State Board of Education, stating "to require these courses in high school is to deny many students the opportunity to graduate high school because they have not mastered a sequence of math courses they will never need" (2013). Wang and King (2008) indicate that allowing students to choose from a variety of course options is essential as it creates a democratic like scenario for students to participate in. Montgomery (2013) noted that the failure of Texas to place emphasis on career and technical training in the past has led to an unprepared workforce in the state.

Research has indicated that a need is present for CTE curriculum to be integrated into the core curriculum. Further, superintendents are more supportive of CTE programs and professional development that integrate core curriculum. This is seen as a method of reinforcing academic curriculum (Cannon, Kitchel, & Tenuto, 2013). It should be noted that mean test scores for core subjects of students enrolled in CTE courses were higher than non-CTE students (Snowe & Okojie, 2013). One main point of support for this bill, according to the House research Organization, is that the bill will "maintain rigor while providing students flexibility to pursue college or career interests" (2013, p. 9).

Students seem to favor course choice as well. Research conducted by Closs (2010), indicated that students felt as though a large variety of CTE course availability would lead to increased grades on report cards. This same research also stated that larger varieties of options for CTE courses could lead to less interest in students dropping out of high school before receiving their diploma (Closs, 2010). Students enrolled in CTE courses have the opportunity to participate in hands-on training and learning that relates to experience in the workforce. Gordon (2014) notes that when education is provided through a real world, hands-on setting, students are more likely to retain the knowledge.

Traditionally, the vocational school path that students choose has been frowned upon and viewed as less than ideal and undesirable (Dare, 2006). According to Mupinga and Livesay (2004) vocational schools are no longer for the non-college bound students, dropouts, students with special needs, or those unable to cope with traditional college. Salopek (2007) indicates more than 9,400 institutions are offering post-secondary education in the form of community colleges, technical programs, skill centers, and other opportunities related to CTE. Similar to the success CTE courses provide students in high school, research has indicated CTE courses effectively

prepare students for post-secondary education and careers. The East Valley Institute of Technology (EVIT) considers itself to be a college prep academy for vocational education (Todd, 2015). The campus is an innovative school that offers students the opportunity to earn college credits in CTE courses while still enrolled in high school. According to Todd (2015) two out of three students enrolled in EVIT over the last nine years have continued to a four-year university. Stipovanvic, Lewis, and Stringfield (2012) indicated that students enrolled in a CTE Program of Study (POS) transitioned easier to postsecondary education, were required to enroll in fewer remedial courses, were more likely to have post-secondary plans, and were as likely to be awarded admission to four-year universities as students not enrolled in CTE. Students enrolled in a POS had earned more credits than their peers who did not make a transition from high school to college through a POS (Stipovanvic et al., 2012). Various post-secondary education incentive programs, such as Project Lead the Way (PLTW), POS, and EVIT have been implemented nationwide, bridging the gap between traditional CTE courses and post-secondary education attendance and completion (Dare, 2006). Dare (2006) notes that PLTW has a 90% success rate for the completion of the first year of college for students, coming from CTE programs, with 75% of the student continuing to a two or four-year degree in engineering or engineering technology. Research indicates that more that 65% of students enrolled in CTE tech prep programs in Idaho enrolled in post-secondary education within three years of graduation (Ball, 2005). CTE students who attempt post-secondary educational opportunities tend to experience more success today, than ever, as CTE programs implement more rigorous coursework into the curriculum.

Methodology

Research Design
This research was conducted using an ex-post facto design. Students chosen to participate in this study were asked to complete a 10-point, Likert scale survey. The purpose of the survey was to collect data regarding the student's perceptions of preparedness for post-secondary opportunities in their CTE field. The survey was divided into four major categories:
      1. Preparedness for higher education (2-year community college, or 4-year university)
      2. Preparedness for a career in the field of the student's CTE coursework
      3. Preparedness for trade of vocational school
      4. Demographics

Population and Sample
The population utilized for this study included 770 twelfth grade students enrolled in a CTE endorsement program in one south central Texas school district. A convenience sample of 76 twelfth grade high school seniors enrolled in a CTE endorsement program at two 6A south central Texas high schools was utilized. The students who chose to participate range in age from 16 years old to 19 years old, were enrolled in CTE courses and have chosen an endorsement area offered in their school.
      Student participants were chosen based upon the following criteria:
          1. The student was a senior
          2. The student was enrolled in an upper level CTE course
          3. The parents completed the participation informed consent
          4. The student completed the participation informed assent

Instrumentation
This survey was constructed utilizing information provided by M. D. Gall, Gall, and Borg
(2007). Data on preparedness was collected in five different areas:

1. Curriculum – the information prepared for the students and presented by the teachers
throughout the student's time in CTE courses.
2. Extracurricular Activities – Career and Technical Student organization opportunities
provided in the CTE endorsement program.
3. Facilities – The facilities available to students throughout their time in the CTE
Endorsement program.
4. Teacher Knowledge – The knowledge of the teachers in the CTE endorsement program
in regards to their area of expertise.
5. Administrator Support – The amount of support provided by the administration for
students to be able to pursue this opportunity.

A definition of terms for each answer is listed on the survey. Students were asked to rate their
level of preparedness in each of these areas on a scale of 1 to 10, ranging from 1) highly
unprepared, to 10) highly prepared.

Data was collected regarding three of the five possible endorsement areas. The schools
that were surveyed offer each of the five endorsement areas, Business and Industry, STEM,
Public Service, Arts and Humanities, and Multidisciplinary. Only two of these endorsement
areas include courses and focus areas from CTE; therefore, only students enrolled in the
Business and Industry, and Public Service endorsement areas were surveyed. For the purpose of
this study, endorsement areas are broken into more specific focus areas utilizing labels as
assigned by the local campuses. The Business and Industry endorsement included courses from
the Agriculture, Food, and Natural Resources; Audio/ Video; Hospitality and Tourism;
Information Technology; and Architecture and Construction focus areas. The Public Service
endorsement included courses from the Law, Corrections, and Security; Health Science; and
Education and Training focus areas.

Data Analysis
A univariate analysis of variance (ANOVA) was employed to determine if there was a
significant difference between the students' endorsement area, and the perception of
preparedness for post-secondary opportunities in any of the five areas; curriculum,
extracurricular activities, facilities, teacher knowledge, and administrator support. The ANOVA
was utilized to determine the relationship between each independent variable and the student's
perception of preparedness.

Results

Pilot Study
The research instrument was created by the researcher. In order to ensure reliability, a pilot study
was conducted on 18 junior level students (*n*=18) at one 6A high school in south central Texas.
The students were selected using the following criteria:

1. The student was a junior
2. The student was enrolled in an upper level CTE course

3. The parents completed the participation informed consent if the student was under 18 years of age.
4. The student completed the participation informed assent

A Cronbach's Alpha was utilized to calculate the reliability of the survey. The area of curriculum had a high level of internal consistency, at .873, as did extra-curricular with a level of .926, facilities at a level of .928, teacher knowledge at a level of .917, and administrative support at a level of .968, as indicated by a Chronbach's Alpha.

Descriptive Statistics
Table 1 depicts the number of courses each student had taken in CTE, and depicts the frequencies for demographics of the participants.

Table 1
Demographic Information on Participants, N=76

Variable	*n*	Percentage
Age		
15	0	0%
16	1	1.33%
17	22	29.33%
18	48	64%
19	4	5.33%
Missing	1	
Gender		
Male	32	42.67%
Female	43	57.33%
Missing	1	
Ethnicity		
White	36	48%
Hispanic	20	26.67%
Black	11	14.67%
Asian	3	4%
Other	5	6.67%
Missing	1	
Number of CTE Courses		
1	15	20%
2	13	17.33%
3	20	26.67%
4	7	9.33%
More than 4	20	26.67%

Students who completed the survey were asked to indicate which endorsement area they had chosen. The students' responses indicated that thirty-one students or 40.78% of the sample had chosen two endorsement focus areas. This increased the number of responses from 76 to 107 for this particular question. Of the 107 responses, 13.08% fell into the Science, Technology, Engineering, and Mathematics (STEM) endorsement. These responses were not included in the inferential data, as the hypotheses were not evaluating students enrolled in the STEM

endorsement. The remainder of the students indicated they were enrolled in Business and Industry (B&I) 41.11 %, and 45.78% were enrolled in the Public Service (PS) endorsement. Each endorsement area is broken into respective focus areas. Students were given the options in a format that represented their school's endorsement options. The local campuses offered nine focus areas that fell into three CTE endorsement areas. Table 2 depicts the frequencies of choices for the students' endorsement area and focus area.

Table 2
Frequencies of Choices for Endorsement Area and Focus Area, N=107

Variable	n	Percentage
Endorsement Area		
Business and Industry	44	41.11%
STEM	14	13.08%
Public Service	49	45.78%
Focus Area		
Ag, Food, and Natural Resources	14	13.08%
Hospitality and Tourism	8	7.48%
Education and Training	7	6.54%
Arts, A.V., Technology	12	11.12%
Law, Public Safety	9	8.41%
STEM	14	13.08%
Architecture	9	8.41%
Marketing	9	8.41%
Health Science	25	23.36%

Means did indicate that students enrolled in the PS endorsement area perceived themselves to be slightly more prepared for higher education in the areas of facilities (M=8.0, SD= 2.45), and teacher knowledge (M=8.35, SD= 2.19), while students who were enrolled in the B&I endorsement area perceived themselves to be slightly more prepared for higher education in the areas of extra-curricular activities (M= 7.13, SD= 2.90), and teacher knowledge (M =7.3, SD=2.61). When evaluating their perceived preparedness for careers, students in the PS endorsement area appear to feel better prepared based off of teacher knowledge (M=8.42, SD=1.94). Students in the B&I endorsement area did not appear to perceive themselves as more prepared for careers based off of any of the five areas. Students who declared the B&I endorsement area appear to perceive themselves as more prepared to enter vocational and trade schools based off of their extracurricular activities (M=7.2, SD=2.52) as opposed to the other areas. Students in the PS endorsement area did not appear to feel considerably more prepared for trade and vocational schools based off of all five areas (Table 3).

Table 3
Means and Standard Deviations for Endorsement Area

| | B&I | | | PS | |
Variable	M	SD		M	SD
Higher Education					
Curriculum	6.6	2.27		**7.88**	2.37
Extra-Curricular	7.13	2.90		**7.84**	2.41
Facilities	6.53	3.04		**8.0**	2.45
Teacher Knowledge	7.3	2.61		**8.35**	2.19
Admin. Support	6.27	2.08		**7.58**	2.40
Career					
Curriculum	6.43	2.87		**7.77**	2.61
Extra-Curricular	7.3	2.65		**7.50**	2.45
Facilities	6.63	2.62		**7.73**	2.60
Teacher Knowledge	7.13	2.56		**8.42**	1.94
Admin. Support	6.63	2.58		**7.77**	2.64
Voc Schools					
Curriculum	6.53	2.75		**7.65**	2.59
Extra-Curricular	7.2	2.52		**7.70**	2.59
Facilities	6.50	2.61		**7.92**	2.37
Teacher Knowledge	6.00	2.96		**8.00**	2.42
Admin. Support	6.5	2.83		**7.81**	2.35

Inferential Statistics

A simple Analysis of Variance (ANOVA) was conducted. There is a significant difference between the B&I and PS endorsement areas on senior student perception of preparedness for higher education in the area of curriculum $F(1,54) = 4.28$, $p=.04$, $p\eta^2=.07$. The public service endorsement area ($M=7.89$, $SD=.45$) mean is significantly greater than the business and industry endorsement area ($M=6.60$, $SD=.42$). There is a significant difference between the business and industry endorsement area and the public service endorsement areas on senior student perceptions of preparedness for higher education in the area of facilities $F(1,54)=4.11$, $p=.05$, $p\eta^2=.07$. The public service endorsement ($M=8.00$, $SD=2.24$) mean is significantly greater than the B&I endorsement area ($M=6.53$, $SD=3.04$). In both cases, 7% of the variance is attributed to the endorsement area. This is considered a medium effect size (Green & Salkind, 2011). No other significant differences were found (Table 4).

Table 4
Univariate Effects of Endorsement Areas on Student Perception of Preparedness for Higher Education

Variables	d_f	F	Significance	$p\eta^2$
Curriculum	1,54	4.28	.04	.07
Extracurricular Activities	1,54	.98	.33	.02
Facilities	1,54	4.11	.05	.07
Teacher Knowledge	1,54	2.59	.11	.05
Administrative Support	1,54	3.47	.07	.06

A simple Analysis of Variance (ANOVA) was conducted. There is a significant difference between the B&I and PS endorsement areas on senior student perceptions of preparedness for careers in the area of teacher knowledge $F(1,54)=4.41$, $p=.04$, $p\eta^2=.075$. The public service endorsement ($M=8.43$, $SD=.45$) is significantly greater than the B&I endorsement area ($M=7.13$, $SD=.42$). In this case, 7.5% of the variance is attributed to the endorsement area. This is considered a medium effect size (Green & Salkind, 2011). No other significant differences were found (Table 5).

Table 5
Univariate Effects of Endorsement Areas on Student Perception of Preparedness for Careers

Variables	d_f	F	Significance	$p\eta^2$
Curriculum	1,54	3.12	.08	.06
Extracurricular Activities	1,54	.09	.77	.00
Facilities	1,54	2.46	.12	.04
Teacher Knowledge	1,54	4.41	.04	.08
Administrative Support	1,54	2.64	.11	.05

A simple Analysis of Variance (ANOVA) was conducted to determine the relationship between Career and Technical Education (CTE) Endorsement Areas, specifically the Science, Technology, Engineering, and Mathematics (STEM), business and industry, and public services endorsement, on senior student perception of preparedness for vocational schools in south central Texas in the areas of curriculum, extracurricular activities, facilities, teacher knowledge, and administrator support. There is a significant difference between the B&I and PS endorsement areas on senior student perceptions of preparedness for vocational and trade schools in the area

of facilities $F(1,54)=4.15$, $p=.04$, $p\eta^2=.077$. The public service endorsement ($M=7.92$, $SD=2.37$) is significantly greater than the B&I endorsement area ($M=6.5$, $SD=2.61$). Eight percent of the variance is attributed to the endorsement area. This is considered a medium effect size. There is a significant difference between the B&I and PS endorsement areas on senior student perceptions of preparedness for vocational and trade schools in the area of teacher knowledge $F(1,54)=7.52$, $p=.00$, $p\eta^2=.12$. The public service endorsement ($M=8.0$, $SD=2.42$) is significantly greater than the B&I endorsement area ($M=6.0$, $SD=2.96$). In this case, 12% of the variance is attributed to the endorsement area. This is considered a medium effect size (Green & Salkind, 2011). No other significant differences were found (Table 6).

Table 6
Univariate Effects of Endorsement Areas on Student Perception of Preparedness for Vocational or Trade Schools

Variables	d_f	F	Significance	$p\eta^2$
Curriculum	1,54	2.44	.12	.04
Extracurricular Activities	1,54	.52	.48	.01
Facilities	1,54	4.52	.04	.08
Teacher Knowledge	1,54	7.52	.01	.12
Administrative Support	1,54	3.48	.07	.06

Discussion
The statistical evidence provided indicates that students enrolled in the PS endorsement area feel better prepared to enter higher education and careers based upon the knowledge of their teacher. This could be due to additional credentialing the Texas Education Agency requires of most teachers employed under the PS endorsement area, health science, law, and education and training. Approximately 25 respondents, an overwhelming majority of the PS endorsement area respondents, indicated they were intending on earning a health science focus. According to TEA Administrative Code 233.14 (2006), health science teachers require additional industry based certifications and time in the career field, before educator credentialing can be awarded. TEA Administrative Code 233.14 (2006) indicates that teachers who seek a health science teacher certification must meet the requirements for years of qualified work experience and preparation for their skill area in order to be awarded a teaching certification by the State Board for Educator Certification. The PS students' perceptions of preparedness to enter higher education based off of curriculum could also be attributed to the credentialing requirements. CTE courses have a wide range of curriculum that may be offered to students in order to satisfy the Texas Essential Knowledge and Skills (TEKS) requirements. The PS endorsement area has the opportunity to offer a variety of industry based and industry validated certifications to students, such as Emergency Medical Technician (EMT), Pharmacology, Certified Nursing Assistant (CNA), Medical Billing and Coding, and more. It is possible that the significant difference between the PS endorsement area and B&I endorsement area in regards to students' perception of

preparedness for careers based on curriculum, lies in the certification offerings that prepare students for careers immediately out of high school.

Conclusions

It can be concluded that there is a significant difference between the Business and Industry (B&I) and Public Service (PS) endorsement areas on senior student perception of preparedness for higher education in the area of curriculum and facilities. This difference could be attributed to the certification offerings at the two south central Texas high schools to PS endorsement area students. The certification offerings require a specific facility as well as specific set of curriculum designed for the certification process. In some cases, the certification programs may require field experience in the profession before credentialing will be awarded to the student.

It was determined that there is a significant difference between the B&I and PS endorsement areas on senior student perceptions of preparedness for careers in the area of teacher knowledge. This is likely attributed to the teacher credentialing requirements of the Texas Administrative Code, which requires more extensive real-world experience for the educator. The majority of focus areas in the PS endorsement area require teachers to hold industry based certifications and licensures, along with a minimum requirement for years of practice before educator certification is awarded to the teacher.

Lastly, it was determined that there is a significant difference between the B&I and PS endorsement areas on senior student perceptions of preparedness for vocational and trade schools in the areas of facilities and teacher knowledge. The specific nature of facilities vital to meet the requirements of student certifications lends itself to students feeling more prepared to enter trade or vocational schools. Students enrolled in the PS endorsement area often end their endorsement area with a capstone course involving a practicum or clinical experience.

This study aimed to bridge the gap in literature regarding students' perceptions of preparedness. Current research indicates that students who are enrolled in a Career and Technical Education (CTE) program have higher graduation rates, higher levels of motivation, are more interested in their curriculum, and are more engaged in their learning (Reese, 2011; Smith, 2012; Alonzo, 2011; Handy & Braley, 2012

The House Research Organization (2013) reinforces the importance of curriculum by noting that academic rigor is essential when considering the preparation of students for postsecondary opportunities. Maintaining the rigor of the coursework along with allowing students to explore postsecondary opportunities is an integral part of the high school experience (House Research Organization, 2013). Teachers who are knowledgeable in their field, and have real-world experiences, have a unique opportunity to share these experiences with their students, which leads to higher engagement and interest. The ability to share real-world experiences with students increases the teachers' ability to build meaningful relationships with their students. Research indicates that strong teacher-student relationships and personalized instruction are two leading factors that can decrease dropout rates among high school students (Bloomfield, Foster, Hodes, Konopnicki, & Pritz, 2013). Studies also correlate higher graduation rates for at risk students, than those who are at risk and not enrolled in CTE courses (Alonzo, 2011). Exposure to higher education opportunities happens frequently through Career and Technical Student

Organizations (CTSO) participation, which may lead to an increased desire to attend colleges and universities. While CTSO's provide hands on experiences, prepare students for the workforce, and focus on skills and trades, it should be noted that students also perceive CTSO's as an opportunity to prepare for college, careers, and vocational or trades schools. These activities aim to build a student's ability to utilize public speaking, reasoning and judgement, exercise their hands on skill, and build specific career skills. For this reason, it is likely that students feel more prepared for careers and trade or vocational schools.

A deep understanding of what areas students perceive as preparing them for post-secondary opportunities, and which endorsement areas seem more beneficial, will allow the LEA and school to improve upon areas that score lower on the perceptions.

The purpose of this study was to determine senior students' perceptions of preparedness for post-secondary education or the workforce, in their CTE field of study. This data can be utilized by the school district to implement changes that are integral to the success of the CTE program, as well as the success of the individual student as they pursue postsecondary opportunities.

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