

## CHAPTER I

### INTRODUCTION

#### Background

“There is no more room for the low-skilled, high-wage jobs of the past in a fast-paced, competitive, technological environment.” (Feller, 1996, p. 24). This sentiment continues to permeate newspapers, magazines and professional journals throughout the country. Emphasized within these many articles is the prominent role that education has taken, and will continue to take, in workforce preparation. Chairman of the Federal Reserve, Alan Greenspan, speaking during the 2000 National Skills Summit at Howard University, emphasized that “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).

“Prior to 1890, the American high school was not widely attended and had only one ‘classical’ curriculum that was designed for the children of the elite.” (Gray, 2002, p. 3 26). In the early 1900’s, however, children of the working class began to attend high school in increasing numbers. These children, of lower socioeconomic status, were destined for work, not college, and the classical curriculum was deemed inappropriate for them. Thus began the differentiation of curriculum into two distinct categories: an academic program of study, and a vocational program of study. Not everyone agreed with such differentiation, and that debate still rages today.

The vocational program of study was intended to provide students with the education and training needed to prepare for an occupation or career requiring less than a baccalaureate degree. The federal government established its presence in the design of

such educational programs with the passage of the Smith-Hughes Act in 1917, which allocated federal funds to schools for job training. More specifically, “the purpose of the act was to provide federal financial aid for vocational-technical education in public secondary schools.” (Hayward & Benson, 1993, p. 6 38). The goal of this pivotal legislation was to firmly establish federal, state and local educational partnerships.

From 1917 to 1963 the basic elements of federal vocational-technical education remained intact, although various legislative efforts saw its influence wax and wane. But following two world wars and tremendous technological advancement, a second legislative effort put vocational education back into the spotlight. The Vocational Education Act of 1963 focused on funding for teacher training, new buildings, and services to people. In the years that followed there was a vast expansion of programs and facilities aimed at improving the technical skills of students across the nation. Enrollment in vocational education programs soared.

Since the Vocational Education Act of 1963, several legislative acts and reform efforts have taken place, some designed to positively impact the breadth and depth of influence which vocational education takes in the development of a quality workforce, and others which resulted in a de-emphasis of vocational education in deference to a more academic focus. From *A Nation at Risk* (National Commission on Excellence in Education, 1983) and the *Carl D. Perkins Vocational-Technical Education Act of 1984* with its several reauthorizations, to *Goals 2000* and *No Child Left Behind*, various federal initiatives and legislative efforts have strongly impacted vocational education. State initiatives also directly impact the scope and influence of career and technical

education, and programs such as Michigan's *Education Yes!*, will also be further examined in the literature review.

While federal and state initiatives and legislative efforts may influence the emphasis placed on vocational education programs and set a tone for the importance of a technical education in our nation's high schools, many other factors may also contribute to the perceptions of vocational education. One such factor may be the image of vocational education in general. Impacted by its historical roots, the American Vocational Association (AVA), established in 1926, was concerned enough with the issue of image that it devoted three journal articles to the topic between 1987 and 1997. Many believed a change in the *vocational* moniker would shift attitudes in a more popular direction, feeling that "changing the name of the association could be the single most positive step toward improving the image of the field and the association." (Lovejoy, 1998, p. 45). A survey carried out in the summer of 1997 found that 22 out of 40 states had changed the name of their vocational education system since 1992, and in 26 of the states, the word vocational did not appear in the title of the division or office administering vocational education programs. (Ries, 1997). By 2000 the word vocational was indeed removed from the association's title, and the name officially became the Association for Career and Technical Education (ACTE). (Lewis, 1998). This focused attention has transformed the designation of vocational education to what is now widely known as Career and Technical Education (CTE).

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appear in the title of the division or office administering vocational education programs. (Ries, 1997).

Federal and state initiatives, image and perception, and a host of other issues are likely contributors to the overall enrollment picture in CTE. Some of these other issues may include: perceived program quality; the influence of teachers, counselors, friends and relatives; a perception that one must choose between going to college or acquiring a technical skill; and many more. Additionally, some issues may be specific to the type of CTE delivery available, whether in a comprehensive high school setting, a career technical high school or an area career technical center. At area career technical centers in particular, where the CTE program is in a regional facility requiring travel from the student's home school to the center, factors such as: travel distance; separation from home school classmates; separation from the comforts of the home school; previous exposure to the center through facility tours and program visits; area center websites, brochures and additional promotional materials; and others may have an impact upon enrollment.

#### Statement of the Problem

“The nation needs technicians, not a flock of discontented young adults who hold worthless baccalaureate degrees and have no job prospects,” argues Kenneth Gray, a supporter of a revitalized CTE. (Gray, 1996, p. 91). Two other investigators, in support of Gray's comments, report “an increasing number of college graduates are entering associate's degree or certificate programs in technical fields at community colleges with the hope of finding a better job.” (Cohen & Besharov, 2002, p. 8).

Secondary CTE can begin to address that issue before students find themselves in a college environment with no clear understanding of the connection between the job market and their individual preparation. CTE does not need to represent an either/or proposition with regard to college, but can leave the option of college open while providing secondary students with marketable skills. (Kerka, 2000). But addressing the myriad issues that often plague secondary CTE enrollment must be a priority.

Secondary CTE enrollment appears to be a mixed picture state-by-state, region-by-region, and district-by-district, with some CTE enrollments on the increase, and others in decline. The reasons behind these differences are unclear, and research to clarify enrollment dynamics is largely absent. Understanding the factors that influence enrollment, that is, the factors that influence a student's decision to attend a Career and Technical Education program, become paramount.

#### Purpose of the Study

This study provides an opportunity to examine the factors that influence a secondary student's decision to attend an area career technical center. While some of the issues examined may be similar across all CTE deliveries, factors specific to area career technical centers will additionally be examined in this study.

Results of this investigation can serve to further the understanding of CTE administrators and staff in the studied facility and provide a clear indication of the initiatives upon which to focus their attention in order to maximize enrollment potential. It may additionally provide CTE administrators and staff in similar facilities some insight into the factors they may wish to investigate for the purposes of inspiring greater CTE enrollment. Furthermore, because some of the factors addressed are relevant to all CTE

deliveries, CTE administrators, staff and policymakers throughout the field will gain insight into potential factors they may wish to consider when addressing issues of CTE enrollment.

#### Research Questions

1. To what extent, if any, does a relationship exist between a high school counselor's influence and a decision to enroll, or not to enroll, in a CTE program at an area career technical center?
2. To what extent, if any, does a relationship exist between a high school teacher's influence and a decision to enroll, or not to enroll, in a CTE program at an area career technical center?
3. To what extent, if any, does a relationship exist between a high school principal's influence and a decision to enroll, or not to enroll, in a CTE program at an area career technical center?
4. To what extent, if any, does a relationship exist between a mother's influence and a decision to enroll, or not to enroll, in a CTE program at an area career technical center?
5. To what extent, if any, does a relationship exist between a father's influence and a decision to enroll, or not to enroll, in a CTE program at an area career technical center?
6. To what extent, if any, does a relationship exist between a brother's or sister's influence and a decision to enroll, or not to enroll, in a CTE program at an area career technical center?

7. To what extent, if any, does a relationship exist between a friend's influence and a decision to enroll, or not to enroll, in a CTE program at an area career technical center?
8. To what extent, if any, does a relationship exist between an area center staff person's influence and a decision to enroll, or not to enroll, in a CTE program at an area career technical center?
9. To what extent, if any, does a relationship exist between a student's 10<sup>th</sup> grade tour to an area career technical center and a decision to enroll, or not to enroll, in a CTE program at an area career technical center?
10. To what extent, if any, does a relationship exist between another student visit or field trip to an area career technical center and a decision to enroll, or not to enroll, in a CTE program at an area career technical center?
11. To what extent, if any, does a relationship exist between a student's high school career plan (EDP) and a decision to enroll, or not to enroll, in a CTE program at an area career technical center?
12. To what extent, if any, does a relationship exist between a student's review of marketing materials (brochures, videos) and a decision to enroll, or not to enroll, in a CTE program at an area career technical center?
13. To what extent, if any, does a relationship exist between a student's review of a website and a decision to enroll, or not to enroll, in a CTE program at an area career technical center?

14. To what extent, if any, does a relationship exist between travel distance to the area career technical center and a decision to enroll, or not to enroll, in a CTE program?
15. To what extent, if any, does a relationship exist between spending half of the day away from the high school and a decision to enroll, or not to enroll, in a CTE program at an area career technical center?
16. To what extent, if any, does a relationship exist between the opportunity to receive a waiver of high school credit for successful completion of a career technical program and a decision to enroll, or not to enroll, in a CTE program at an area career technical center?
17. To what extent, if any, does a relationship exist between the opportunity to receive college credit for successful completion of a career technical program and a decision to enroll, or not to enroll, in a CTE program at an area career technical center?
18. To what extent, if any, does a relationship exist between a student's perception, or image of career and technical education, and a decision to enroll, or not to enroll, in a CTE program at an area career technical center?

#### Definitions

*Comprehensive high school* - a secondary delivery in which all courses are offered in a single location. The breadth of curriculum includes all coursework, from language arts, mathematics and science, to social studies, physical education and the arts. Career and technical education programs are also a part of the curricular delivery.

*Career technical high school* - a secondary delivery in which all courses are offered in a single location. The curriculum is narrower in concentration, focused on career and technical education programs and accompanied by core academic components.

*Area career technical center* - a secondary delivery in which career and technical education programs are offered at a location separate from the high school. Core academic components, as well as physical education and the arts, are often available in the high school. Most commonly, students spend half of their day at the high school, and the other half of the day at the center.

*Vocational education* – A sequence of courses that provides individuals with the academic and technical knowledge and skills needed to prepare for further education and for careers (other than careers requiring a baccalaureate, master's or doctoral degree) in current or emerging employment sectors. (Carl D. Perkins Vocational and Applied Technology Education Amendments of 1998). Used synonymously in this study with *career and technical education*.

### Strengths and Limitations of the Study

An important strength of this study was that it focused on a specific area career technical center, but surveyed students from each of the feeder schools, including those students who attend the area career technical center, as well as those who do not. By surveying both attendees and non-attendees, generalizations can be made regarding influencing factors that both support and dissuade CTE enrollment.

A limiting factor in this study concerns the population surveyed. High school seniors were surveyed in each of the respective schools in their Government class, a one-semester requirement for seniors. Some seniors enroll in the class during the first

semester, and others during the second semester. Therefore, not all seniors are included in the study. It is the practice of some high school counselors to enroll those seniors who are less academically motivated in the first-semester Government course, so that in the event of failure they have the second semester to retake the required course. Consequently, less academic students may be over-represented in the sample of respondents.

Another limiting factor in this study is the examination of a single area career technical center. While this center may be somewhat representative of other centers statewide and nationally, certain factors may be specific to this center in terms of its image, its recruitment practices, its geography and its demographics that would not be representative of other centers.

### Summary

This study examines the relationship between a student's decision regarding enrollment at an area career technical center and the factors that influence that decision. Identifying the factors that contribute to a student's decision-making process with regard to enrollment in a CTE program will assist stakeholders in fashioning strategies to market their programs in a manner that will enhance enrollment.

The related research on factors that contribute to a student's decision-making process regarding enrollment in a CTE program is limited, and those studies that have been conducted are somewhat antiquated. New technologies and marketing strategies, a changing society affected by legislative efforts and other economic factors, and a host of other issues, make this study both timely and important. This quantitative approach makes it possible to explore relationships between various student characteristics and

influences and their impact on student decision-making with regard to career and technical education programs.

## CHAPTER II

### LITERATURE REVIEW

Factors influencing a secondary student's decision to attend an area career technical center were examined in this study. Relevant literature from both a historical perspective of career and technical education, to a more specific look at enrollment trends and influencing factors, was reviewed.

The review is organized into three sections: (1) the history and evolution of career and technical education, (2) issues identified in the literature as influencing factors in CTE enrollment, and (3) a description of the Wexford-Missaukee Intermediate School District and its CTE delivery through the Wexford-Missaukee Area Career Technical Center.

#### The History and Evolution of Career and Technical Education

Today, career and technical education (CTE) is offered in 14,100 comprehensive high schools, 250 career technical high schools, 1,100 area career technical centers and a multitude of post-secondary programs and facilities throughout the United States. (Copa, 2002). In 1998, about one-fourth of high school graduates completed three or more credits in a single vocational discipline, which is the Department of Education's definition of concentration in vocational education. (Hurst & Hudson, 2001).

While the original federal initiative into vocational education began with the Smith-Hughes act of 1917, there have followed a virtual roller-coaster-ride of federal and state programs, all of which have strongly impacted the breadth and depth of influence

that career and technical education has taken, in both positive and negative ways, in our nation's schools.

Shortly after the passage of Smith-Hughes in 1917, which was directed at secondary-aged students, Congress passed legislation in 1918 to fund vocational education for World War I veterans. Such education was viewed as critical to our nation's well-being, and providing skill training to those back from the war was deemed essential.

In 1926 the American Vocational Association was founded, as enrollment in vocational programs nationally exceeded 850,000. With vocational education continuing to gain in popularity, the 1929 Congress increased significantly the annual appropriations for home economics and agriculture education. In 1936 the George-Deen Act authorized an annual \$12 million allotment for agriculture, home economics and trade and industrial education, and marketing occupations were recognized for the first time, receiving an authorization of \$1.2 million. By 1941, as the United States entered World War II, Congress passed the Vocational Education for National Defense Acts to help prepare war industry workers, many of whom were women.

In 1946, following the end of the war, the George-Barden Act replaced the George-Deen Act and authorized \$28.5 million annually for the increased development of vocational education. By 1956, with vocational education a respected component of the overall educational delivery, the Health Amendments Act added practical nursing and health occupations programs to the list of vocational programs eligible to receive federal funds. But in 1958 the tide began to turn on the significance of vocational education, as the National Defense Education Act came about in response to the Soviet launch of the

first successful manmade object into orbit around the earth. The Sputnik launch shook the nation into believing we had fallen behind the Soviets in mathematics and science, and consequently focused attention on reforming the schools to address the discrepancy. This focused attention was upon the need for an expansion of academic rigor, and as significantly, upon the importance of school counselors who were identified in the Act as the persons charged with identifying those students capable of entering higher education in the sciences.

According to Herr (2002),

The ripple effects of the National Defense Education Act had profound and positive effects on 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 on the commitments of State Departments of Education to increase the certification requirements for counselors...this legislation reaffirmed and extended the role of school counselors as part of massive efforts in school reform. (p. 226)

With school counselors firmly entrenched in our nation's secondary schools, their primary task was to identify and encourage students in academic pursuits, and to steer the successful toward a college education. A change in administration at the Federal level, however, and a shift in educational philosophy, changed their role somewhat in the early 1960's. In stark contrast to the goals of the National Defense Education Act, much of the legislation during the early 1960's, under the influence of President Lyndon Johnson's Great Society initiatives, focused on the need for school reform related to preparing students for the workforce, much of it through the expansion of vocational education. Thus came the inspiration for the Vocational Education Act of 1963 and, subsequently, the Vocational Education Act of 1968. In a 1967 message to Congress, President Johnson emphasized that "we pay too little attention to the two out of three young people who do

not go on to college and the many others who do not finish.” (Barton, 1994, p.4). School counselors were now charged not just with identifying and guiding students into college, but to assist all youth with identifying a path to employment. The 1968 Act provided large sums of money to address the nation's social and economic problems and emphasized school reform directed at assuring the nation of a strong workforce, while providing that all students, including at-risk students and those with disabilities, had equal access to vocational education programs.

With this shift in focus came an interest in collecting detailed national data to track student participation in vocational education. As a result, Congress instituted new requirements for states to include information on vocational education expenditures and student enrollments in their annual reports to Congress. This emphasis continued in 1976 with amendments to the Vocational Education Act which called for a comprehensive evaluation of vocational education in the United States. The National Assessment of Vocational Education (NAVE) was created, with the National Center for Education Statistics (NCES) charged with the responsibility of collecting and reporting the data.

The Career Education Act of 1978 established the comprehensive career development concept, which viewed the individual as progressing through various planned experiences, and again implored educators in general, and school counselors in particular, to be focused on student career decision-making.

The early 1980's brought a significant change in focus. Amid growing concern about deficiencies in the academic skills of the American workforce, the Commission on Excellence in Education was appointed in 1981 with an 18-month timeline to give an account of the condition of our nation's schools. The commission released their report in

a publication entitled *A Nation at Risk*. “Not since the Soviet launching of Sputnik in the late 1950s has the topic of educational reform figured so prominently in American public discourse.” (Hunt & Staton, 1976, p. 271). The report painted a dismal picture of the nation’s educational system, and focused attention on the need for more emphasis on core academic subjects. The report largely focused on the college preparation curriculum and vocational education was not addressed. States responded to the report by increasing the academic courses required for graduation from high school and for admission to state colleges and universities. Consequently, there was erosion in the enrollment in vocational education programs, not because of a lack of “quality of vocational education per se, but rather the fact that vocational education programs were elective, not required.” (Herr, 2002, p. 228). As required courses increased, there was often no available room in a student’s schedule to participate in elective coursework, particularly in vocational education where courses often met for a block of time in each school day.

Vocational education was addressed the following year by Congress with the authorization of the Carl D. Perkins Vocational-Technical Education Act of 1984, which sought to bring together the many federal programs governing vocational education under a single umbrella. Its authorization emphasized the need to assist states in expanding, improving, modernizing and developing quality vocational education programs to meet the fast-paced changes and challenges in today’s workplace. With the concerted emphasis on academics in the wake of *A Nation at Risk*, “this act placed more emphasis than earlier legislation on access, program improvement, cooperation between public and private sectors, advanced technology and training, and retraining and upgrading of workers.” (Hayward & Benson, 1993, p. 7). The role of the school counselor loomed

large in Perkins as well, focusing attention on career awareness, career planning, career decision making, placement skills, and knowledge and understanding of local, state, and national occupational, educational and labor market needs, trends and opportunities.

“In the late 1980s the focus in education changed from *seat time* and *quantity* of courses to the *quality* of curriculum and instruction and their results.” (Goals 2000: Reforming Education to Improve Student Achievement, 1998). Academics again took center stage, with growing concern that our youth were not achieving at acceptable levels in our schools. The attention was more locally focused, with the belief that improvement would be best affected through meeting expectations set by parents, teachers, individual schools, and the society at large. The 1989 National Governor’s Association Education Summit emphasized the more localized focus, as well as the state’s role in education improvement, and reform efforts gained momentum.

Federal legislators were debating reauthorization of the Perkins Act at this same time and, echoing the outcry of concern with regard to academic achievement, the Act was reauthorized in 1990 as the Carl D. Perkins Vocational and Applied Technology Act, or Perkins II, and it “linked federal support to integrating vocational and academic education, building tech prep and developing performance standards.” (Jennings, 1995, p. 25). The legislative effort to integrate academic and vocational education was further advanced by the Federal School-to-Work Opportunities Act of 1994 which provided a national framework for the infusion of career education into the nation’s schools. The Act provided federal funds and specific guidelines for implementation of school-to-work initiatives, focusing on whole school reform.

The States' commitment to education, still energized by the conclusions of the Governor's Education Summit, was emboldened in March of 1994, when the Goals 2000: Educate America Act was signed into law. Goals 2000 awarded grants to participating States and districts to support communities in the development and implementation of their own standards-based education reforms. State and local officials, educators, parents, community members and business leaders joined together with the goal of raising the academic achievement of all students.

While secondary career and technical education took a hit in 1983 with the release of "A Nation At Risk," the 1990's "brought an enrollment resurgence thanks to the proliferation of technical careers and growing partnerships between businesses and schools." (Hussain, p. 2, 1999). These partnerships, supported by School-to-Work, Goals 2000 and Perkins II, helped to once again legitimize the role of secondary career and technical education, and emphasized its harmonious existence with academic pursuits.

Legislators in the State of Michigan in 1997, with a desire to expand upon these federal efforts, created the Career Preparation System. The system was designed to support traditional academic courses by making connections between *real world* examples and the specific academic curriculum taught. "The system calls for strategies including career contextual learning which emphasizes the application of academics to the world beyond the classroom, and providing all students with career exploration, guidance opportunities, and general employability and technology skills." (Michigan Center for Career and Technical Education, 2004).

The Perkins legislation was again up for reauthorization, and after four years of debate Congress passed, and President Clinton signed, the 1998 Carl D. Perkins

Vocational and Applied Technology Education Act, or Perkins III. Another significant piece of legislation, the Workforce Investment Act of 1998 (WIA), managed by the Department of Labor, was passed that same year and focused on the development of a quality workforce. This brought forth an accountability partnership among the states, the U.S. Department of Education, and the U.S. Department of Labor. These complementary legislative initiatives enhanced the role of vocational education in the United States, and elevated its position in the workforce development arena. According to Stevens (2001),

The purpose of Perkins III is to develop more fully the academic, vocational, and technical skills of secondary students and postsecondary students who elect to enroll in vocational and technical programs. The purpose of WIA Title I is to provide workforce investment activities...that increase the employment, retention, and earnings of participants, and increase occupational skill attainment by participants, and, as a result, improve the quality of the workforce, reduce welfare dependency, and enhance the productivity and competitiveness of the Nation. (p. 12)

A new administration at the Federal level in 2000 changed the educational landscape a bit. In January 2002, President George W. Bush signed into law the No Child Left Behind Act (NCLB) of 2001, which reauthorized the Elementary and Secondary Education Act (ESEA) of 1965. The enactment of NCLB represents the most extensive national education reform legislation in years. Now that NCLB is law, federal, state, and local officials face compliance challenges in transforming these education reform theories into a working reality for schools. The challenges have grown over time, in some measure due to states' budget woes.

The State of Michigan's school accreditation model, Education YES!, also has a direct impact on Michigan's high schools, and in combination with NCLB, will affect every educator, student, parent and taxpayer in Michigan. According to Andrew Henry, Director of the Center for Educational Performance and Information, "the federal No

Child Left Behind Act of 2001 and the Michigan Department of Education's accreditation plan, Education YES!, are historic initiatives calling for accountability and academic excellence in every public school." (Henry, 2003). With such a focus on academic excellence, the tendency has been to concentrate on core curriculum issues at the expense of elective coursework. Math, science, social studies and language arts receive rapt attention while programs in career and technical education must justify their existence by demonstrating academic rigor in their respective disciplines.

Such has been the history of Career and Technical Education since the first Federal initiative in 1917. As Miller (2002) writes,

America's attempts to revitalize education have been steeped in controversy and have resulted in the initiation of multiple reform policies over several decades. Too often schools have tried to implement what is tantamount to the reform policy *du jour*, at times focused on targeted populations and specific programs, then just as quickly refocused on whole school reform... The focus of American education has been debated throughout the past century. The debate on whether the focus of schooling is to be academic, vocational, or a mixture of the two, continues today. (p. 1)

Currently an increasing emphasis on academic skills and college aspirations has again directed attention away from technical training. As one author puts it, "unfortunately policy is now moving in the wrong direction. Perpetuating the college-for-all myth, schools are de-emphasizing employers' needs, reducing vocational education, and retiring vocational teachers who have employer contacts. These are terrible losses." (Rosenbaum, p. 279, 2001).

Fully understanding the enrollment picture in career and technical education, on a state and national level, can be somewhat challenging. Part of the confusion could be due to the fact that there is no consistent national system of determining secondary vocational enrollment. While most states define secondary school as grades 9-12, others report

enrollment numbers for 7-12, or 11-12. Defining a vocational program is also varied, as is identifying a vocational concentrator. Some states count students each time they take a vocational course, while others count students in a program only if they take three or more technical classes in a defined sequence. According to Norton Grubb, a leading researcher at the National Center for Research in Vocational Education (NCRVE,) “it’s obvious that vocational education isn’t going to disappear anytime soon. But until we examine the coherence of vocational schools and programs and establish one way to count enrollment everywhere, we won’t know for sure where it’s up and where it’s down.” (Husain, p. 5, 1999).

While reporting of National statistics is cumbersome, and analysis and comparisons can be problematic, data within particular states is often more useful. Typically a state-governed department, or office, directs CTE activities in their jurisdiction, and a much higher level of consistency in data reporting allows for broader comparisons and, consequently, a clearer picture of enrollment dynamics. In Michigan for example, the Office of Career and Technical Preparation in the Department of Labor and Economic Development provides oversight of CTE throughout the State. They manage the continual development of the statewide Career Technical Education Information System (CTEIS) program to facilitate data collection and verification. Data is gathered and compiled from all CTE programs in the State, and the system can generate reports used for all aspects of program development, planning, funding, and evaluation. Trend data in the State of Michigan indicates a slight increase in overall enrollment since 1996. While there was a slight dip in enrollment during the 1997-98

school year, the trend since has been gradually upward. **MORE STATE**

## **ENROLLMENT DATA FROM TERRI GIANNOLA HERE**

While enrollment trends nationally and statewide provide interesting information, and may help to explain in some part a similarity of dynamics in a local district, the enrollment picture at the local level does not always mimic the larger context. CTE administrators and decision-makers in individual districts are most assuredly aware of their own enrollment picture, and likely have thoughts as to the reasons behind those dynamics. Quite often they act on those suspicions through their marketing strategies, policy decisions and personnel activities. Developing websites, creating brochures and videos, arranging visits and tours, serving as guest speakers in local schools and at various school functions, forging credit articulation arrangements with post-secondary institutions, developing secondary academic credit waivers for particular CTE programs, and a host of other initiatives are all designed to ease, and to encourage, participation in CTE programs. Furthermore, they are all based upon a perception that these initiatives actually have an affect on a student's decision regarding enrollment in a CTE program. The important question is, of course, which factors actually do influence a student's decision regarding enrollment in a CTE program. Therein lies the central issue of this study.

### Issues Identified as Affecting Enrollment in Career and Technical Education

Lam (1982) classified barriers that influence a student's decision to not enroll in vocational education into three main categories. The first category involves intrapersonal reasons, which include: attitudes, perceptions, images, motivation, career maturity and

value systems. The second category involves immediate external reasons, which include two sub-categories: the influence of others (parents and other relatives, counselors, teachers, friends and neighbors) and school factors (distance to school, friends, extracurricular activities.) The third category involves remote external reasons, which include socioeconomic status, parental income and parental educational levels.

For the purposes of this study, intrapersonal reasons and immediate external reasons will be examined. These elements constitute the factors that directly influence a student's decision regarding enrollment in a career and technical education program. An investigation of the third category identified by Lam (1982), remote external reasons, largely encompasses an examination of the profile of those characteristics which commonly typify those who enroll in, and those who do not enroll in, career and technical education programs. That investigation will be left for other researchers to explore.

While the categories identified by Lam (1982) constitute barriers that influence a student's decision to not enroll in vocational education, the converse of some of these barriers begin to define the factors that encourage students to enroll in CTE programs. In other words, if images and perceptions are positive, if career motivation and maturity are constructive, if the influence of others is encouraging and if school factors are welcoming, these factors could positively influence a student's decision to attend a CTE program. Jackson (2002), in a report of exemplary students in CTE, identified other factors that positively influence a student's decision to enroll in their CTE program. These factors included a variety of recruitment efforts on the part of the CTE programs. In keeping with Lam's (1982) categories, these factors would add a third sub-category to

the immediate external reasons; namely, recruitment/outreach initiatives, and they too will be investigated in this study.

*Intrapersonal reasons – attitudes, perceptions and image*

Federal and State legislative initiatives can certainly affect enrollment as financial resources directly impact the expansion, or reduction, of CTE offerings. Equally important is the message that is sent to the public about the legitimacy of CTE when legislators actively support, or fail to support, CTE's role in our educational delivery. As has been detailed in the historical perspective on career and technical education, these initiatives affect the attitudes, perceptions and image of CTE in profound ways and have a significant impact on the enrollment picture in CTE.

In a report on a series of conference calls to CTE administrators, teachers, representatives of the business and industrial community, and other parties interested in CTE, conducted by the National Dissemination Center for Career and Technical Education, respondents most often mentioned the need to improve the image of CTE as one of the major issues in the year 2000. (NDCCTE, ?????????). According to Cohen and Besharov (2002), "it is clear that CTE has an image problem, which is due both to the college-for-all myth and to the perception that it is poor quality education for the worst students." (p 14). Consequently, CTE educators must address two fronts: the perception of the quality of education in CTE, and the belief that students must choose either a CTE track, or a college track.

According to Dennis McLelland (1993), "vocational education has been, and still is, a victim of bad press." (p. 62). He believes that most people do not understand the

role and purpose of vocational education, often seeing it as a *dumping ground* for underachieving students, and believes the media contributes to creating that perception.

O'Neill (1985) found that this negative image was reinforced by secondary teachers of sending schools who believed that students who attend a career technical center are not accepted by their peers. **He(?)** further discovered that directors of the technical centers believed that negative attitudes toward CTE causes difficulties in recruitment and enrollment. Rossetti's (1989c) study reported a negative impact on enrollment due to poor image perceptions of CTE, and suggested stakeholders need to change the way people look at career technical education.

McLelland (1993) suggests that CTE personnel need to take more active roles in building relationships with the media to portray a different image. That view is supported by Deede Sharpe (1993) who believes that "the image of any service organization is in the hands of its providers." (p. 24). Not only should CTE administrators and staff build positive relationships with the media, but they should also seek to influence all of their stakeholders including students, parents, other educators, and the community at large.

Francis Tuttle (1987), past president of the American Vocational Association (now the Association for Career and Technical Education), indicated that "we must have strategic plans at every level to improve the image of vocational education." (p. 11). Another author points out that "in this era of declining enrollment it is critical to market vocational education effectively" (Kibler, 1992, p. 19) and he suggests 30 separate tips that those in CTE can utilize to do so. Primary among the efforts suggested is the key role that the teacher should play in marketing their program, from setting high standards and

staying current with subject matter to connecting with a strong advisory committee and reaching out into the community at large.

Much of the research on schools that have high public confidence points to the fact that marketing is the most pervasive mode of building high confidence. (Catri, 1998). Certainly the amount of effort placed on marketing initiatives, and the effectiveness of those initiatives, can have a tremendous impact on the CTE enrollment picture.

With regard to the college *or* CTE dichotomy, understanding the requirements of the job market is essential, and educating students, parents and the community at large about job trends and the necessary preparation for transition into the world of work is crucial. The fact is, most jobs do not require a college degree. Of the total job openings between 2000 and 2010, the Bureau of Labor Statistics projects that 70 percent of the jobs will require no postsecondary training whatsoever. Of the remaining 30 percent, nine percent will require an associate's degree or postsecondary vocational award, and only 21 percent will require a bachelor's degree or higher. (Cohen and Besharov, 2002).

In 1998 fully 55 percent of high school seniors reported that they definitely intended to pursue a four-year college degree, and an additional 23 percent indicated that they probably would do so. (Wirt et al, 2001). A 1999 study reports that the percentage of all high school seniors who expected to enroll in college and complete at least some coursework rose from 81 percent in 1972 to 95 percent in 1992. (Boesel and Friedland, 1999). The studies also indicate that, although a high percentage report that they intend to pursue postsecondary education, and consequently complete a high school curriculum driven by that belief, only 63 percent of high school completers actually enrolled in

college in the fall of 1999 immediately following graduation. (Wirt et al, 2001). An even more dismal statistic reports that “somewhere around half of the freshman entering four-year colleges eventually graduate.” (Boesel and Friedland, 1999, p. 14).

Obviously far more high school graduates believe they are destined for college than actually go, and of those who do follow through on their intent the success rate is poor. Additionally, the volume of college students who actually graduate still exceeds the needs of the labor force. According to Immerwahr (1999),

Half of faculty members, 60 percent of business leaders, and slightly less than half of higher education administrators and government officials surveyed by Public Agenda in 1998 agree that many young people are wasting time and money in college because they don't know what else to do. Moreover, nearly 90 percent of the entire group said they want to make trade and technical school a more appealing option for high school graduates who are not qualified for college. (p. 10).

Recognizing that the preponderance of students in high school report a desire to pursue a college education, “the CTE community began to shift its philosophy to incorporate a greater focus on academic skills and preparation for postsecondary education.” (Cohen and Besharov, 2002, p. 16). The Perkins Acts of 1990 and 1998 placed a great deal of emphasis on program improvement, standards and, specifically, academic achievement.

CTE need not be seen as an alternative to college, but as a path that can lead to more education. Skills acquired in CTE programs allow a student to earn a high standard of living without postsecondary education, but can also enhance the postsecondary learning experience. At least one author believes students are beginning to see the opportunities. “What I see among students now is an awareness that career and technical

education opens up opportunities rather than closes them. Today the students we're working with see all kinds of further education opportunities." (Ries, 2000, p. 16).

Students in CTE have advantages while in high school, immediately following graduation, and in college if they choose to go. "Career and Technical Education (CTE) can benefit students directly by providing earning advantages, both before and after graduation. It can provide indirect benefits by increasing student engagement, retention, and persistence and directing them to postsecondary education and the pursuit of lifelong learning." (Brown, 2003, p. 1).

An additional advantage to those who follow their CTE experience with college enrollment is often that they enter with advanced standing through articulation arrangements between the secondary and postsecondary institutions, and a clearer focus of where they're headed. Most of the students who go to college without such a clear vision of what they are pursuing try multiple majors and in the end often select the most expedient major they can identify to get their degree, and leave with job prospects largely unfulfilled. (Dembecki, 1999).

#### *Intrapersonal reasons – motivation, career maturity and value systems*

Beyond attitudes, perceptions and the image of CTE, Lam (1982) also includes a student's motivation, career maturity and value systems among his intrapersonal reasons. The notion of career maturity was introduced by Super (1955). "Super defined career maturity as the repertoire of behaviors that help identify, choose, plan, and execute career goals, being at an average level in career development for one's age." (Rossetti, 1991, p. 1). The problem in career maturity arises when students are asked to make a career choice too soon, before they have the maturity to make a sound decision. Herr (1979) believes

that students are unable to make that choice until they are seniors in high school, well after the typical 10<sup>th</sup> grader's decision regarding enrollment in a secondary CTE program must be made. Following the findings from her study, Rossetti (1989c) recommended that: 1) students in high school need more exposure to career guidance and the CTE offerings available; 2) counselors need to take responsibility for assisting students in career decision-making with the support of parents; 3) personnel need to be increased in high schools to offer more guidance and counseling to students; and 4) tours of area career technical centers should be conducted for sophomore students as well as opportunities for other *hands-on* visits and field trips.

The Career Education Act of 1978 was an effort to assist students in the complexity of career decision-making by establishing a comprehensive system of career development. It viewed students as progressing through various planned experiences during their K-12 experience, and encouraged the assistance of school counselors in the process, who brought more mature thinking to student decision-making. So too, the State of Michigan's Career Preparation System, established in 1997, had similar expectations. Specifically, its goal is to provide all students with career exploration, guidance opportunities, and general employability and technology skills.

The mainstay of the Career Preparation System is Career Pathways. These are six broad groupings of careers that share similar characteristics and whose employment requirements call for many common interests, strengths, and competencies. The groupings encompass the entire spectrum of career options, providing opportunities for all students and all ability levels. Integrating Career Pathways into the school curriculum improves student attendance, retention, achievement, career decision-making, and career goal attainment. (Career Pathways, 2002).

Many school systems have adopted a strategy to assist students in effectively planning for their future by identifying and investigating a career pathway. "This strategy

includes the development of an individual career plan for all students by the tenth grade.” (Cohen and Besharov, 2002, p. 42). Although not mandated by Michigan law, the use of Educational Development Plans (EDPs) has been an ongoing effort in many districts to assist students in developing a plan of action that guides the learner in accomplishing their career goals. The EDP initiative supports the mission of the Michigan Career Preparation system by focusing on career decision-making and career goal attainment. Understanding their interests and abilities, gathering information on careers that are appropriately suited to them, and developing a plan of action which is updated regularly constitutes the process of student EDP development. This can serve as an important element in the identification of, and ultimate pursuance of, a program in CTE. Jackson (2002), in a report of students’ reasons for enrolling in a CTE program, indicated that in some instances “the deciding factor was a match between their interests and a program.” (p. 2). She also identified students who were eager to enroll so that they could get a head start on their already-identified postsecondary career. “The thing that made me enroll in the program is that I would be able to get all my high school credits and also get college credits.” (Jackson, 2002, p. 2). Gehrt (1990) also found that the exploration of various vocational opportunities is helpful in the student decision-making process and suggests a comprehensive career-decision-making program needs to be in place for all students.

*Immediate external reasons - the influence of others*

Research indicates that parents play a role in the decisions made by high school students regarding their course selection, although the extent of their influence is uncertain. In many instances the high school counselor requires a parent signature, or parent input, on course scheduling prior to approval. Unfortunately, parental opinion

persistently regards vocational education as the path for non-college-bound students, with a narrow focus and limited opportunities. (Ries, 1997; Vo, 1997). “Changing the minds of parents whose hearts are set on college for their kids may be the hardest part.” (Kerka, 2000, p. 2).

With the implementation of school-to-career programs nationwide, it is becoming clear that parents are not being convinced. This is mainly due to the myths that have grown up around the economy, higher education, and the relationship between college degrees and good jobs. Unless the CTE community debunks these myths, secondary career and technical education could be in danger. (Gray, 1997). “Although the data is limited, it seems that the public supports the concept of CTE for those who are not college bound. However, most parents prefer the college option for their own children.” (Cohen and Besharov, 2002, p. 20).

The question of a parent’s influence is often given consideration. Some research has indicated that parents do indeed have influence with their children regarding their career decision-making, and can affect their child’s decision regarding pursuance of a CTE program. In a study of the attitudes and perceptions held by parents toward vocational education, Gilbertson (1995) found that parents of students enrolled in vocational education courses had a significantly more positive attitude toward vocational education than parents of students who were not enrolled in vocational courses. Additionally, reporting on successful students in CTE, Jackson (2002) found that “all of these successful students had a parent or parents who supported their child’s decision to enroll in a career and technical program.” (p. 2). Herr (1987) found that parents have less influence than they believe, and parents and students disagree on the amount of influence

parents actually have. In a study to determine the influencing factors on student enrollment in three Joint Vocational Schools in Ohio, it was determined that mothers/female guardians had the greatest influence over student's decisions. (Rossetti, 1989a).

Dube (1987) found that 89 percent of friends try to discourage a student from entering into a CTE program while only 14 percent try to encourage a student's enrollment. In stark contrast, Beukes (1986) and Reynolds (1976) found that friends had no influence on choices and decisions involving CTE enrollment. Gehrt (1990) reported that students are not significantly influenced by their peers in selecting a career program and that they have role models other than their parents as well who influence their career choice. She discovered that CTE instructors with whom students have contact are an important influence on student decision-making, although the primary influencing agent in making a career program choice is the individual himself/herself. Jackson (2002) also reported that instructors who make a visit to the home school might indeed spark an interest and positively influence a student's decision concerning CTE enrollment. Other researchers have found that counselors, high school teachers and other relatives also have some influence. (Herr, 1987; Rossetti, 1989b). While the Ohio study found that mother's/female guardians have the greatest influence(46%), they are followed closely by friends (44%), counselors (39%) and fathers/male guardians (38%). Teachers and other relatives were found to be in the 20% range in this study. (Rossetti, 1989a).

According to Huss & Banks (????), school counselors, in particular, can be key figures in student decision-making since they "have a great deal of influence with course selection and therefore are key participants in CTE." (p. 1). Jackson (2002) also reported

that students were influenced by counselors who took a special interest in their CTE enrollment. Conflicting results were reported by Reynolds (1976) and Beukes (1986) who concluded that counselors and guidance programs had little or no influence on student's decisions to enroll in CTE programs.

Research with regard to a teacher's influence has reported mixed results. Some have found that a teacher's affect upon students does not influence their enrollment in CTE, (Dube, 1987; Beukes, 1986) while others discovered that students indeed seek the advice of their teachers before enrolling (Herr, 1987; Lejlune, 1977; Rossetti, 1989a).

*Immediate external reasons – school factors*

Lam (1982) identifies school factors among the reasons students may not elect to attend a career center. These school factors include items such as the distance one must travel to the career center and being away from the home school and friends. Rossetti (1991) found that being away from the home school and friends was a significant factor that negatively impacted enrollment at the career center. "Home school friendship is a bond that is keeping some students from enrolling." (p. 6). The author recommends promoting the center as a socially friendly place with the opportunity to meet new people, and to sponsor social events to ease the transition.

Jacobs' (1975) West Virginia research found that travel to another school was a prominent factor in dissuading students from enrolling in a CTE program. Scalon's (1984) study supported Jacobs' findings and concluded that busing and distance were discouraging factors for many students.

While the research is limited, other school factors often believed to impact enrollment in career technical programs, although in positive ways, include the

opportunity for a waiver of high school credits, and the obtainment of college credit for successful completion of CTE programs.

The waiver of high school credits for successful completion of a career technical program is a practice put in place by many career technical programs. While plans vary from district to district, and program to program, it is primarily a recognition that academic areas of mathematics, science and language arts are taught in many CTE programs, and therefore a waiver may be available to students with regard to their high school credit requirements in those areas. This can be seen as a strategy to ease the scheduling difficulties encountered by some students who want to attend a half-day CTE program, but find it difficult to manage because of the array of courses they are required and/or desire to take.

Articulated credit is the term used when students receive college credit for successful completion of a career technical program. Agreements are forged between secondary and post-secondary institutions to afford the opportunity for receipt of college credit based upon successful completion of CTE programs. Basically students may receive credit for competencies mastered in CTE programs which are required in specific college courses. CTE administrators often pursue these agreements to not only secure advantages for their students, but to legitimize their instruction and enhance the image of career and technical education.

*Immediate external reasons - recruitment/outreach initiatives*

Recruitment activities are common among area career centers, particularly because their programs are an elective choice and survival depends upon a stable and reliable student population. According to Jackson (2002) most students said they learned

about the CTE programs in which they were enrolled through recruiting activities from their career centers. A variety of marketing strategies are consequently used to positively impact aspiring students including: visits and tours to the area center; brochures and other promotional materials; websites with pertinent information on programs and opportunities; outreach efforts by area center staff into the local schools; and the nurturing of partnerships with the business/industrial community.

To boost enrollment, one researcher reports that CTE educators use “everything from a student-produced video to cable television appearances and professionally designed brochures to spread the word about career and technical education” (Ries, 1999, p. 1). Another reports that partnerships with business and industry, and credit for work-based learning, are advantageous strategies in the enrollment arena. (Husain, 1999). According to Jackson (2002), seeing the programs for themselves was quite often the determining factor in the decision to enroll at the area center.

While most area centers engage in many, if not all, of these recruitment strategies, the literature is not replete with information regarding their actual impact on enrollment. Those strategies stressed by the Wexford Missaukee Area Career Technical Center will be examined in this study.

#### A description of the Wexford Missaukee Intermediate School District and its CTE delivery through the Wexford Missaukee Area Career Technical Center

The Wexford Missaukee Intermediate School District (WMISD) is a rural district in the northwest region of the lower peninsula of Michigan. Wexford and Missaukee counties, as well as portions of five other counties, comprise the 1500 square mile district. The city of Cadillac contains a population of approximately 10,000 residents and

is surrounded by several small communities. Seven public school districts are within the WMISD boundaries and receive its services. As is true of all intermediate school district (ISD) and regional educational service agency (RESA) deliveries in Michigan, the primary purpose is to provide educational opportunities to students in a wider geographic area, programs that would be cost prohibitive for individual districts to provide on their own due to limited student populations and/or equipment needs. The stated mission of the WMISD is to “provide high quality educational and support services requested by its constituent local districts whereby each district can more effectively meet the educational needs of its students and citizens.” The WMISD provides general education, special education, and career and technical education services from its central location in Cadillac, and in outreach efforts into the constituent districts.

The Wexford Missaukee Area Career Technical Center (WMACTC) is located in Cadillac, Michigan and has been serving students in the WMISD since 1971. Approximately 600 students from the local districts are enrolled in one of the 13 programs available at the center. These programs include: Agriscience and Natural Resources; Allied Health Technology; Automotive Service; Building Trades; Business Services Technology; Cosmetology; Electronics; Heavy Equipment Mechanics; Hospitality, Retailing and Entrepreneurship; Machine Trades; Robotics and Automation; and Small Engines.

The majority of students begin at the center during their junior year with plans to complete a two-year program by the end of their senior year. A small number of sophomore students are in attendance each year as well, as are tuition-paying adults from throughout the region.

A concerted effort is made by staff at WMACTC to actively recruit students. These recruitment efforts include: the development of brochures; creation of a website; organization of visits and tours of the center by sophomore students from the local high schools; collaboration through meetings and visits with local high school personnel on issues ranging from credit waiver and articulation opportunities to new program development; and letters sent to the homes of prospective students. Other incidental efforts include timely newspaper articles and WMISD newsletter insertions regarding the center. These recruitment efforts, therefore, identify the perceived factors that WMACTC staff believe may have an influence on a student's decision to attend the Center. It is these factors that will be investigated in this study.

## CHAPTER III

### METHODOLOGY

Walonick (1998) identifies three primary methods of conducting research: (1) survey, (2) observation, and (3) experiment. Since survey data is the most common method of gathering information in the social sciences, and can identify attitudes and perceptions of respondents, it was an ideal method of data collection for this study. Additionally, surveys are: cost effective, particularly when dealing with large populations; easy to administer; a familiar format to most people; less biased; easy to analyze; and less intrusive. A primary disadvantage of surveys, particularly as it pertains to this study, is the inability to probe further into particular topics. Additionally, since nearly 90 percent of all communication is visual, gestures and other cues are not available with written surveys. (Walonick, 1998).

This study examined the factors that influence a secondary student's decision to attend an area career technical center. Specifically, the influencing factors which were examined included (a) high school counselor; (b) high school teacher; (c) high school principal; (d) mother; (e) father; (f) brother or sister; (g) friend; (h) area center staff person; (i) tour of the center; (j) another visit or field trip to the center; (k) high school career plan (EDP); (l) marketing materials; (m) website; (n) travel distance; (o) separation from the high school; (p) the opportunity for high school credit waiver; (q) the opportunity to receive college credit; and (r) image and perceptions of the center.

A description of the instrumentation, participants, data collection and data analysis of the study are included in this chapter.

## Instrumentation

A 26-question survey was designed to gather information from a group of currently enrolled seniors in the eight high schools that send students to the Wexford Missaukee Area Career Technical Center (WMACTC). The survey contained four distinct sections. Section I gathered information on a student's gender and grade point average (GPA) and also determined if they currently attended the Career Technical Center. Section II focused on the *people* who may have influenced a student's decision regarding enrolling, or not enrolling, in the Career Technical Center. Section III focused on an array of *other factors*, largely identified in the literature review, that may have influenced a student's decision regarding enrolling, or not enrolling, in the Career Technical Center. The last section contained six questions that attended to a student's image of the Career Technical Center. These questions were particularly focused on their perceptions of the purpose of the Career Technical Center, as well as the type of students they believed best suited for enrollment there.

Aside from Section I, where respondents simply checked boxes identifying their personal information, Sections II through IV utilized a 5-point Likert scale for gathering data. Sections II and III sought responses regarding people and other factors that influenced students, reported on a Likert scale ranging from *Not at all* to *A lot*. Section IV, concerning a student's perceptions on particular items, also used a Likert scale, ranging from *Strongly disagree* to *Strongly agree*.

## Participants

The population for the survey was comprised of seniors from each of the seven public high schools in the WMISD. More specifically, respondents were those who were present in their required Government class on the particular day selected by the counselor for survey administration. Because Government is a one-semester class, not all seniors were enrolled in the required class at the time of the study. Furthermore, due to absenteeism, not all of the seniors enrolled in the class were present on the particular day chosen. Therefore, this is not considered a census study.

### Data Collection

A counselor in each high school, acting as a facilitator, administered the surveys to high school seniors in their Government class, a required senior-level class in each of the schools. Respondents were comprised of those present in their Government class on the particular day selected by the counselor for survey distribution and completion.

The counselor distributed the surveys along with the student cover letter. The counselor read a prepared script aloud to the students prior to beginning the survey. Students were reminded not to put their name anywhere on the survey. The surveys were not coded in any way, thus the responses were completely anonymous. Students were further instructed that they could choose not to answer any question by simply leaving it blank, and could also choose not to participate at all. Students completed the survey in less than 10 minutes. When all students were finished with the survey the counselor collected them, placed them in an envelope, and returned them to David Gaunt.

Immediately upon receipt of the surveys the data was input into an electronic database and the file stored on a rewritable CD. Cone and Foster (2001) suggest that it is

advisable to minimize the number of steps between receiving the raw data and actually inputting the data into the computer. After verification by Dr. Carl Woloszyk, Professor Emeritus of the Department of Teaching, Learning & Leadership, that all hard copy was included in the database, the hard copy was destroyed. An original CD of the data will be maintained for a minimum of three years under the supervision of Dr. Carl Woloszyk, and a backup copy will be maintained for a like amount of time by David Gaunt.

Western Michigan University's Human Subjects Institutional Review Board (HSIRB) approved the procedures, protocol, and methodology on September ??, 2004. Copies of the HSIRB approval letter, survey instrument, and cover letters can be found in Appendices A, B, C, and D, respectively.

### Data Analysis

This study involved the examination of factors influencing a student's decision regarding enrollment in an area career technical center. Through the use of a student questionnaire, 18 identified independent variables were examined to determine their impact on a single dependent variable, that is, a decision to enroll, or not to enroll, in an area career technical center.

### Research Questions

*Research Question #1: To what extent, if any, does a relationship exist between a high school counselor's influence and a decision to enroll, or not to enroll, in a CTE program at an area career technical center?*

The analysis of the high school counselor's influence was first to report the average response rate on the 5-point Likert scale, calculated as a simple mean by totaling

the scores and dividing by the total number of respondents to that question. This descriptive statistic was then compared to the other 17 factors.

A secondary analysis was conducted to determine if there was a statistically significant difference between a counselor's influence on those who enroll, and those who do not enroll. Calculating the mean counselor influence score for those who were students at the Career Technical Center and comparing it to the mean counselor influence score for those who were not students at the Career Technical Center established this. A *t* test was conducted to determine if there was statistical significance by using a *p* value of  $\leq .05$ . Descriptive statistics were used to display the results.

*Research Question #2: To what extent, if any, does a relationship exist between a high school teacher's influence and a decision to enroll, or not to enroll, in a CTE program at an area career technical center?*

The analysis of the high school teacher's influence was first to report the average response rate on the 5-point Likert scale, calculated as a simple mean by totaling the scores and dividing by the total number of respondents to that question. This descriptive statistic was then compared to the other 17 factors.

A secondary analysis was conducted to determine if there was a statistically significant difference between a teacher's influence on those who enroll, and those who do not enroll. Calculating the mean teacher influence score for those who were students at the Career Technical Center and comparing it to the mean teacher influence score for those who were not students at the Career Technical Center established this. A *t* test was conducted to determine if there was statistical significance by using a *p* value of  $\leq .05$ . Descriptive statistics were used to display the results.

*Research Question #3: To what extent, if any, does a relationship exist between a high school principal's influence and a decision to enroll, or not to enroll, in a CTE program at an area career technical center?*

The analysis of the high school principal's influence was first to report the average response rate on the 5-point Likert scale, calculated as a simple mean by totaling the scores and dividing by the total number of respondents to that question. This descriptive statistic was then compared to the other 17 factors.

A secondary analysis was conducted to determine if there was a statistically significant difference between a principal's influence on those who enroll, and those who do not enroll. Calculating the mean principal influence score for those who were students at the Career Technical Center and comparing it to the mean principal influence score for those who were not students at the Career Technical Center established this. A *t* test was conducted to determine if there was statistical significance by using a *p* value of  $\leq .05$ . Descriptive statistics were used to display the results.

*Research Question #4: To what extent, if any, does a relationship exist between a mother's influence and a decision to enroll, or not to enroll, in a CTE program at an area career technical center?*

The analysis of a mother's influence was first to report the average response rate on the 5-point Likert scale, calculated as a simple mean by totaling the scores and dividing by the total number of respondents to that question. This descriptive statistic was then compared to the other 17 factors.

A secondary analysis was conducted to determine if there was a statistically significant difference between a mother's influence on those who enroll, and those who

do not enroll. Calculating the mean mother influence score for those who were students at the Career Technical Center and comparing it to the mean mother influence score for those who were not students at the Career Technical Center established this. A *t* test was conducted to determine if there was statistical significance by using a *p* value of  $\leq .05$ . Descriptive statistics were used to display the results.

*Research Question #5: To what extent, if any, does a relationship exist between a father's influence and a decision to enroll, or not to enroll, in a CTE program at an area career technical center?*

The analysis of a father's influence was first to report the average response rate on the 5-point Likert scale, calculated as a simple mean by totaling the scores and dividing by the total number of respondents to that question. This descriptive statistic was then compared to the other 17 factors.

A secondary analysis was conducted to determine if there was a statistically significant difference between a father's influence on those who enroll, and those who do not enroll. Calculating the mean father influence score for those who were students at the Career Technical Center and comparing it to the mean father influence score for those who were not students at the Career Technical Center established this. A *t* test was conducted to determine if there was statistical significance by using a *p* value of  $\leq .05$ . Descriptive statistics were used to display the results.

*Research Question #6: To what extent, if any, does a relationship exist between a brother's or sister's influence and a decision to enroll, or not to enroll, in a CTE program at an area career technical center?*

The analysis of a brother's or sister's influence was first to report the average response rate on the 5-point Likert scale, calculated as a simple mean by totaling the scores and dividing by the total number of respondents to that question. This descriptive statistic was then compared to the other 17 factors.

A secondary analysis was conducted to determine if there was a statistically significant difference between a brother's or sister's influence on those who enroll, and those who do not enroll. Calculating the mean brother or sister influence score for those who were students at the Career Technical Center and comparing it to the mean brother or sister influence score for those who were not students at the Career Technical Center established this. A *t* test was conducted to determine if there was statistical significance by using a *p* value of  $\leq .05$ . Descriptive statistics were used to display the results.

*Research Question #7: To what extent, if any, does a relationship exist between a friend's influence and a decision to enroll, or not to enroll, in a CTE program at an area career technical center?*

The analysis of a friend's influence was first to report the average response rate on the 5-point Likert scale, calculated as a simple mean by totaling the scores and dividing by the total number of respondents to that question. This descriptive statistic was then compared to the other 17 factors.

A secondary analysis was conducted to determine if there was a statistically significant difference between a friend's influence on those who enroll, and those who do not enroll. Calculating the mean friend influence score for those who were students at the Career Technical Center and comparing it to the mean friend influence score for those who were not students at the Career Technical Center established this. A *t* test was

conducted to determine if there was statistical significance by using a  $p$  value of  $\leq .05$ . Descriptive statistics were used to display the results.

*Research Question #8: To what extent, if any, does a relationship exist between an area center staff person's influence and a decision to enroll, or not to enroll, in a CTE program at an area career technical center?*

The analysis of an area center staff person's influence was first to report the average response rate on the 5-point Likert scale, calculated as a simple mean by totaling the scores and dividing by the total number of respondents to that question. This descriptive statistic was then compared to the other 17 factors.

A secondary analysis was conducted to determine if there was a statistically significant difference between an area center staff person's influence on those who enroll, and those who do not enroll. Calculating the mean area center staff person influence score for those who were students at the Career Technical Center and comparing it to the mean area center staff person influence score for those who were not students at the Career Technical Center established this. A  $t$  test was conducted to determine if there was statistical significance by using a  $p$  value of  $\leq .05$ . Descriptive statistics were used to display the results.

*Research Question #9: To what extent, if any, does a relationship exist between a student's 10<sup>th</sup> grade tour to an area career technical center and a decision to enroll, or not to enroll, in a CTE program at an area career technical center?*

The analysis of the 10th grade tour's influence was first to report the average response rate on the 5-point Likert scale, calculated as a simple mean by totaling the

scores and dividing by the total number of respondents to that question. This descriptive statistic was then compared to the other 17 factors.

A secondary analysis was conducted to determine if there was a statistically significant difference between a 10th grade tour's influence on those who enroll, and those who do not enroll. Calculating the mean 10th grade tour influence score for those who were students at the Career Technical Center and comparing it to the mean 10th grade tour influence score for those who were not students at the Career Technical Center established this. A *t* test was conducted to determine if there was statistical significance by using a *p* value of  $\leq .05$ . Descriptive statistics were used to display the results.

*Research Question #10: To what extent, if any, does a relationship exist between another student visit or field trip to an area career technical center and a decision to enroll, or not to enroll, in a CTE program at an area career technical center?*

The analysis of another student visit or field trip's influence was first to report the average response rate on the 5-point Likert scale, calculated as a simple mean by totaling the scores and dividing by the total number of respondents to that question. This descriptive statistic was then compared to the other 17 factors.

A secondary analysis was conducted to determine if there was a statistically significant difference between another student visit or field trip's influence on those who enroll, and those who do not enroll. Calculating the mean student visit or field trip influence score for those who were students at the Career Technical Center and comparing it to the mean student visit or field trip influence score for those who were not students at the Career Technical Center established this. A *t* test was conducted to

determine if there was statistical significance by using a  $p$  value of  $\leq .05$ . Descriptive statistics were used to display the results.

*Research Question #11: To what extent, if any, does a relationship exist between a student's high school career plan (EDP) and a decision to enroll, or not to enroll, in a CTE program at an area career technical center?*

The analysis of the high school high school career plan (EDP)'s influence was first to report the average response rate on the 5-point Likert scale, calculated as a simple mean by totaling the scores and dividing by the total number of respondents to that question. This descriptive statistic was then compared to the other 17 factors.

A secondary analysis was conducted to determine if there was a statistically significant difference between a high school career plan (EDP)'s influence on those who enroll, and those who do not enroll. Calculating the mean high school career plan (EDP) influence score for those who were students at the Career Technical Center and comparing it to the mean high school career plan (EDP) influence score for those who were not students at the Career Technical Center established this. A  $t$  test was conducted to determine if there was statistical significance by using a  $p$  value of  $\leq .05$ . Descriptive statistics were used to display the results.

*Research Question #12: To what extent, if any, does a relationship exist between a student's review of marketing materials (brochures, videos) and a decision to enroll, or not to enroll, in a CTE program at an area career technical center?*

The analysis of the influence that a high school student's review of marketing materials had was first to report the average response rate on the 5-point Likert scale, calculated as a simple mean by totaling the scores and dividing by the total number of

respondents to that question. This descriptive statistic was then compared to the other 17 factors.

A secondary analysis was conducted to determine if there was a statistically significant difference between the influence that a high school student's review of marketing materials had on those who enroll, and those who do not enroll. Calculating the mean influence score on the student review of marketing materials for those who were students at the Career Technical Center and comparing it to the mean influence score on the student review of marketing materials for those who were not students at the Career Technical Center established this. A *t* test was conducted to determine if there was statistical significance by using a *p* value of  $\leq .05$ . Descriptive statistics were used to display the results.

*Research Question #13: To what extent, if any, does a relationship exist between a student's review of a website and a decision to enroll, or not to enroll, in a CTE program at an area career technical center?*

The analysis of the influence that a high school student's review of a website had was first to report the average response rate on the 5-point Likert scale, calculated as a simple mean by totaling the scores and dividing by the total number of respondents to that question. This descriptive statistic was then compared to the other 17 factors.

A secondary analysis was conducted to determine if there was a statistically significant difference between the influence that a high school student's review of a website had on those who enroll, and those who do not enroll. Calculating the mean influence score on the student review of a website for those who were students at the Career Technical Center and comparing it to the mean influence score on the student

review of a website for those who were not students at the Career Technical Center established this. A  $t$  test was conducted to determine if there was statistical significance by using a  $p$  value of  $\leq .05$ . Descriptive statistics were used to display the results.

*Research Question #14: To what extent, if any, does a relationship exist between travel distance to the area career technical center and a decision to enroll, or not to enroll, in a CTE program?*

The analysis of the influence that travel distance had was first to report the average response rate on the 5-point Likert scale, calculated as a simple mean by totaling the scores and dividing by the total number of respondents to that question. This descriptive statistic was then compared to the other 17 factors.

A secondary analysis was conducted to determine if there was a statistically significant difference between the influence that travel distance had on those who enroll, and those who do not enroll. Calculating the mean influence score on travel distance for those who were students at the Career Technical Center and comparing it to the mean influence score on travel distance for those who were not students at the Career Technical Center established this. A  $t$  test was conducted to determine if there was statistical significance by using a  $p$  value of  $\leq .05$ . Descriptive statistics were used to display the results.

*Research Question #15: To what extent, if any, does a relationship exist between spending half of the day away from the high school and a decision to enroll, or not to enroll, in a CTE program at an area career technical center?*

The analysis of the influence that spending half of the day away from the high school had was first to report the average response rate on the 5-point Likert scale,

calculated as a simple mean by totaling the scores and dividing by the total number of respondents to that question. This descriptive statistic was then compared to the other 17 factors.

A secondary analysis was conducted to determine if there was a statistically significant difference between the influence that spending half of the day away from the high school had on those who enroll, and those who do not enroll. Calculating the mean influence score on spending half of the day away from the high school for those who were students at the Career Technical Center and comparing it to the mean influence score on spending half of the day away from the high school for those who were not students at the Career Technical Center established this. A *t* test was conducted to determine if there was statistical significance by using a *p* value of  $\leq .05$ . Descriptive statistics were used to display the results.

*Research Question #16: To what extent, if any, does a relationship exist between the opportunity to receive a waiver of high school credit for successful completion of a career technical program and a decision to enroll, or not to enroll, in a CTE program at an area career technical center?*

The analysis of the influence that the opportunity to receive a waiver of high school credit for successful completion of a career technical program had was first to report the average response rate on the 5-point Likert scale, calculated as a simple mean by totaling the scores and dividing by the total number of respondents to that question. This descriptive statistic was then compared to the other 17 factors.

A secondary analysis was conducted to determine if there was a statistically significant difference between the influence that the opportunity to receive a waiver of

high school credit for successful completion of a career technical program had on those who enroll, and those who do not enroll. Calculating the mean influence score on the opportunity to receive a waiver of high school credit for successful completion of a career technical program for those who were students at the Career Technical Center and comparing it to the mean influence score on the opportunity to receive a waiver of high school credit for successful completion of a career technical program for those who were not students at the Career Technical Center established this. A *t* test was conducted to determine if there was statistical significance by using a *p* value of  $\leq .05$ . Descriptive statistics were used to display the results.

*Research Question #17: To what extent, if any, does a relationship exist between the opportunity to receive college credit for successful completion of a career technical program and a decision to enroll, or not to enroll, in a CTE program at an area career technical center?*

The analysis of the influence that the opportunity to receive college credit for successful completion of a career technical program had was first to report the average response rate on the 5-point Likert scale, calculated as a simple mean by totaling the scores and dividing by the total number of respondents to that question. This descriptive statistic was then compared to the other 17 factors.

A secondary analysis was conducted to determine if there was a statistically significant difference between the influence that the opportunity to receive college credit for successful completion of a career technical program had on those who enroll, and those who do not enroll. Calculating the mean influence score on the opportunity to receive college credit for successful completion of a career technical program for those

who were students at the Career Technical Center and comparing it to the mean influence score on the opportunity to receive college credit for successful completion of a career technical program for those who were not students at the Career Technical Center established this. A *t* test was conducted to determine if there was statistical significance by using a *p* value of  $\leq .05$ . Descriptive statistics were used to display the results.

*Research Question #18: To what extent, if any, does a relationship exist between a student's perception, or image of career and technical education, and a decision to enroll, or not to enroll, in a CTE program at an area career technical center?*

The issue of perception is explored in Part IV of the survey. Six questions are presented to explore a student's image of the Career Technical Center. The 5-point Likert scale, from *Strongly disagree (1)* to *Strongly agree (5)*, establishes the scale. A *Strongly agree* response to questions 21, 22, 23 and 26 would represent a positive image of the Career Technical Center. Conversely, a *Strongly disagree* response to those questions would indicate a negative image. For questions 24 and 25 the direction is opposite, that is, a *Strongly agree* response would represent a negative image of the Career Technical Center and a *Strongly disagree* response to those questions would indicate a positive image. Although the format for questions 24 and 25 is consistent with the other questions, for the sake of consistency for the respondent, the data input is adjusted to represent scores that maintain a consistent direction regarding perception. A point value of 5 for *Strongly disagree*, 4 for *Disagree*, 3 for *Neutral*, 2 for *Agree* and 1 for *Strongly agree* are input for questions 24 and 25, even though that is not the scale represented on the survey. A mean score is calculated on the factor of *Perception* by totaling the scaled scores for questions 21 through 26, and dividing by the total number of

responses to those questions. The greater the score the more positive the perception, and conversely, the lower the score the more negative the perception. This descriptive statistic was then compared to the other 17 factors.

A secondary analysis was conducted to determine if there was a statistically significant difference between the mean perception score of those who enroll, and those who do not enroll. A *t* test was conducted to determine if there was statistical significance by using a *p* value of  $\leq .05$ . Descriptive statistics were used to display the results.

### Summary

This chapter explained the methods and procedures used to analyze the data collected in determining the factors that influence a student's decision to enroll, or not to enroll, in an area career technical center. The following chapter will present the results obtained using those methods.

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