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Relationship Between Membership in DECA, An Association of Marketing Students, and Grade Point Average as an Indicator of Academic Success

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ABSTRACT

RELATIONSHIP BETWEEN MEMBERSHIP IN DECA, AN ASSOCIATION OF MARKETING STUDENTS, AND GRADE POINT AVERAGE AS AN INDICATOR OF ACADEMIC SUCCESS

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Stakeholders in career and technical education, and more specifically marketing education, tout member benefits of applied learning through career and technical student organizations. However, there is little empirical evidence to support the notion that such student organizations help students to achieve academic gains. As a result, the purpose of this study was to collect and analyze empirical data to determine whether there is a relationship between DECA, An Association of Marketing Students, and academic gains as indicated by grade point average.

The study examined three relationships. The first was the relationship between DECA membership and grade point average movement, the second examined the impact of multiple years of membership, and the third analyzed the relationship between grade point average as it related to an individual's level of engagement in DECA's annual activities.

Two-hundred twelve students across Virginia (n=212) completed an inventory identifying their involvement in DECA, and they also provided entry, midpoint, and exit grade point averages. It was determined that DECA members

showed significant increases in grade point averages during their memberships. It was also determined that multiple years of membership amplified the grade point averages. Finally, it was determined students who were more heavily engaged in DECA's annual activities showed greater academic gains than did their more passive member counterparts.

DEDICATION

This dissertation is dedicated to my lovely and talented wife Lark. Without her steadfast and unwavering patience over the past few years, completing this degree and dissertation would have been impossible. Thanks for being patient with me during the 3 a.m. work mornings, the late, late nights, the personal time sacrificed over our weekends during the past few years, and the crankiness that accompanied it all. You are the love of my life.

And to Hayden, Logan, Tylar, Ben, and Darynn, you can and will accomplish whatever you believe you will. I love you all.

Michael F. Kosloski

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CHAPTER I

Introduction

Career and technical education is a program of study that offers a sequence of courses that provide individuals with the academic and technical knowledge and skills they need to prepare for further education and careers (Brustein, 2006). Most high schools across the country have at least one career and technical education offering. Virtually every student across the country takes at least one career and technical education course during their high school career, and approximately one in four takes three or more courses in a concentrated program area (United States Department of Education, 2008).

Most of the career and technical education programs consist of three modes of instruction: classroom instruction, cooperative education, and the career and technical education student organization. Each of the program areas has a co-curricular student organization founded on industry/education standards and specific course curricula. There are seven nationally recognized career and technical education program areas and eight career and technical student organizations. These include Business Professionals of America; DECA, an Association of Marketing Students; Future Business Leaders of America; Technology Student Association; Family, Career, and Community Leaders of America; Health Occupations Students of America; The National FFA Organization; and SkillsUSA-VICA (Gordon, 2003). These are noted in Table 1.1.

Table 1.1

Secondary Career and Technical Student Organizations

Student Organization	Program Area
Business Professionals of America (BPA)	Business Education
DECA, An Association of Marketing Students	Marketing Education
Future Business Leaders of America (FBLA)	Business Education
Technology Student Association (TSA)	Technology Education
Family, Career, and Community Leaders of America (FCCLA)	Family and Consumer Sciences
Health Occupations Students of America (HOSA)	Health Occupations Education
The National FFA Organization	Agricultural Education
SkillsUSA-VICA	Trade and Industrial Education

The co-curricular organizations provide individual students unique learning opportunities outside of what takes place in the traditional classroom. As an element of the curriculum, students are offered opportunities for leadership roles such as project manager for a local project or become a local, state, or national officer. They have the opportunities for leadership development through officer training, content-specific developmental workshops, and chapter projects. Students participate in service activities ranging from individual efforts at the local level to cooperative efforts at the national level. They also have the opportunity to take part in competitive events, which expand their experiences in leadership

and job related competencies corresponding to their program (Gordon, 2003). Some of the positive traits developed from student organizations include teamwork, decision-making, competitive proficiency, leadership, community awareness, career awareness, and personal and social development (Alfeld et al., 2007).

The co-curricular student organization for marketing education is DECA, An Association of Marketing Students (formerly known as Distributive Education Clubs of America) (Berns, 1996). Specific to the marketing education discipline, more than 180,000 students become members of the student organization (DECA) each year, with hundreds of thousands more participating at the local level. The purpose of DECA is to reinforce nationally recognized curriculum standards and provide realistic educational experiences with respect to marketing, management, and entrepreneurship (DECA, Inc., 2009b). Student organization experiences offer a method of instruction not replicated in the classroom (DECA, Inc., 2009b). As stated by DECA, Inc.:

> DECA's objective is to support the development of marketing and management skills in career areas such as hospitality, finance, sales and service, business administration and entrepreneurship. Programs and activities are tailored to the specific career interest of students and include technical skills, basic scholastic and communication skills, human relations and employability skills, and a strong emphasis on economics and free enterprise. DECA provides recognition and leadership activities directly related to attainment of specific occupational and leadership skills.

DECA's mission establishes clear criteria for its programs and activities. (DECA, Inc., 2009b, para. 2)

Student members participate in a variety of programmatic activities that support, reinforce, and enhance the marketing curricula, providing them with engaging venues for learning career, technical, and academic skills and knowledge. Given the emphasis in today's public schools on academic or core courses, and given the number of students engaged in co-curricular student organizations, the question must be posed, "Does participation in such co-curricular student organizations help or hinder academic progress?"

Statement of the Problem

The problem of this study was to determine if there was a relationship between membership in the marketing education student organization (DECA) and academic success of high school students as indicated by grade point average.

Research Hypotheses

To guide this research, the following hypotheses were established:

H_1: There is a positive relationship between membership in DECA and high school grade point average.

H_2: The positive relationship between membership in DECA and high school grade point average is amplified with multiple years of membership.

H_3: There is a positive relationship between the degree of engagement in DECA's annual activities and high school grade point average.

Background and Significance

Federal acts and governmental reports have continuously molded career and technical education. One such report from May, 1990—the Secretary's Commission on Achieving Necessary Skills (SCANS Report)—concluded that "...more than half our young people leave school without the knowledge or foundation required to find and hold a good job" (United States Department of Labor Employment and Training Administration, 2006, p. viii). More recently, the No Child Left Behind Act (2001) called for an increased emphasis on academic skills, specifically in the areas of science, mathematics, reading, social studies, and technology (United States Department of Education, 2002). As a result, career and technical education has been charged with providing a greater level of amalgamating academic knowledge in the career and technical education curricula. Under prior versions of career and technical education (vocational education) legislation, and now the current version of the Carl D. Perkins Career and Technical Education Act of 2006, it has been mandated to integrate career and technical skills and knowledge with academic skills and knowledge, showing accountability for this integration (Brustein, 2006). Student organization activities provide a venue for students to apply academic skills and knowledge in a real world setting, thereby enhancing the learning process (Gordon, 2003).

For high school students, most student organization activities provide contextual, problem-based learning situations whereby individual students or student teams investigate and find solutions for realistic, open-ended problems. The end product of these activities is the culmination of long-term preparation,

focused on a specific educational outcome. This preparation requires students to apply both academic and vocational skills and knowledge and should necessarily reinforce and enhance not only career skills and knowledge but also academics.

Research has indicated that extracurricular activities, as well as non-school activities such as volunteering and part-time work, can provide academic benefits for students (Mahoney, Larson, Eccles, & Lord, 2005). Career and technical education has professed that the curricula, as well as the corresponding student organizations, also provide academic benefits during the course of reinforcing and supporting the career and technical education curricula (Alfeld et al., 2007). Camp, Navaratnum, and Jeffreys (1987) studied sophomore career and technical student organization members and determined that participation in the student organization produced a positive contribution to achievement as measured by grades. However, little other research exists to empirically support such a statement or verify the academic impact of student organizations (Camp, Jackson, Buser, & Baldwin, 2000; Zirkle & Conners, 2003; Stone, Kowske, & Alfeld, 2004).

While there are many similarities between the eight nationally recognized career and technical student organizations, there are also many differences (i.e., content focus, competitive events structure, leadership opportunities, etc.). Due to the large number of differences, individual studies for each of the organizations should be examined separately so that stronger organizations are not penalized by a collection of blended data. Camp, Jackson, Buser, and

Baldwin (2000) recommended that separate, programmatic research be conducted.

Marketing education and its corresponding career and technical education student organization—DECA, An Association of Marketing Students—has always included integrated mathematics, reading, writing, and social competence in its activities as a part of marketing education curricula. The student organization provides its members a unique opportunity to apply those elements of the curricula into leadership and competitive activities. Not only should the application of academics enhance and reinforce the marketing curricula, but it should also enhance and reinforce academic principles. Therefore, this study is important and contributes to the profession by validating the purpose of the student organization as it relates to both the marketing curricula as well as core academics.

Limitations

The limitations for this study are as follows:

- Only high school seniors from Virginia who are in their third year of marketing education, as well as recent high school graduates with two or more years of DECA membership, were examined. Students who began their careers as ninth graders could not be measured, as there was no way to accurately benchmark their grade point average progress prior to membership.
- To preserve the anonymity of participants, grade point averages have been self-reported. Research shows that self-reported grade point averages should be utilized with caution as they may be erroneous or intentionally

misreported to avoid a negative stigma associated with low grades (Kuncel, Credé, & Thomas, 2005). It is important to note that participants have self-reported grades anonymously, thereby reducing the likelihood of misreporting for reasons associated with a negative stigma.

- Because the candidates for this study have been approached through several layers of authority, qualified candidates for this study may have been approached in different manners by their respective state advisors and teachers, leading to group participation in some schools and volunteerism in others. As a result, the sample may or may not be a generalizable sample of the students in the organization.
- DECA activities include but are not limited to competition, leadership activities, community service, and school-based enterprise. Participation in such DECA activities at the chapter level is not equal from one school to the next. Because it is nearly impossible for any individual chapter to include all potential DECA activities in a single year, most advisors select the activities that they deem most appropriate for student engagement, as well as those that meet with their own personal preferences and willingness to facilitate. This results in foregoing some of the organizational opportunities available. As a result, the measure of student participation levels does not necessarily gauge identical experiences, as students are often limited by the opportunities presented to them by their teacher-advisor(s).
- There are eight nationally recognized career and technical student organizations. While there are many commonalities between them, each has

its own strengths and weaknesses, as well as a number of differences (Camp, Jackson, Buser, & Baldwin, 2000). Caution should be taken with regard to projecting the conclusions of this study to other career and technical student organizations because this study has only examined DECA, the marketing education student organization.

Assumptions

The benefits of student participation in DECA are enhanced through a multi-year process, some students participating as many as four years (Alfeld et al., 2007). Members often do not decide to become fully active until they have completed the school calendar cycle of activities, resulting in increased awareness and motivation levels once they have witnessed their peers engage in like activities. The cycle includes leadership, community service, and competitive events activities.

The foundation for the student organization is the marketing education curriculum. While teachers could potentially take liberties with the types of DECA activities in which they opt to include for student consumption, it is assumed that teachers are integrating their respective marketing education curricula into DECA activities and events.

Finally, all members are not equally responsive to taking part in the student organizational events and activities. Some are extremely active, while others are passive and only participate when required to do so. It is assumed that the participants in this study are inclusive of all degrees of participation.

Procedures

In 2008 Edward Davis, Executive Director for DECA, Inc., approached state advisors from each of the 50 states at their annual State Advisor Management Conference in an effort to collect data on DECA's membership. He followed-up with those state advisors at the onset of the academic year, and the study was also announced in DECA's national online newsletter which was distributed directly to teacher-advisors. Directions for participation were then provided to all teachers who wanted to participate in the proposed survey research.

To complete the survey, students were asked how many years they had been members of DECA, as well as their current year in school. Next, they were to identify their grade point average at the conclusion of their freshman, sophomore, and junior years. The freshman year grade point average—prior to involvement with DECA—was utilized as a benchmark against future grade point averages. The remainder of the form was adopted from Alfeld et al. (2007) and was an inventory of student degree of participation in the career and technical student organization. This inventory also included student degree of participation in extracurricular activities. The data were collected, compiled, and aggregated, and these were filtered so that only those students who were high school seniors in their third year of membership were utilized. These existing data were utilized to conduct this study.

A repeated measures analysis of variance was administered to determine whether there was a significant difference between the grade point averages

prior to DECA membership, following one year of membership, and after two-years of membership. A two-way analysis of variance was performed to determine the relationship between grade point averages, year of membership, and level of engagement in DECA's annual activities.

Definition of Terms

The following terms are defined to assist the reader with the study:

Academic Success – Academic success, for the purposes of this study, has been defined as grade point average movement over a two year period concurrent with each student's membership in DECA.

Career and Technical Education – The Carl D. Perkins Career and Technical Education Improvement Act of 2006 defines career and technical education as:

> Organized educational activities that offer a sequence of courses that provides individuals with the academic and technical knowledge and skills they need 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; and include competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills of an individual. (Brustein, 2006, p. 16)

Co-curricular – Activities that reflect what is included in the curriculum but are performed outside of the classroom. Co-curricular events are in direct support of the curriculum.

Competitive Events – Students prepare for and vie against each other in various marketing-related events, with effectiveness judged by industry leaders in the community. Competitive events may include written manuals, role-plays, team decision making events, or other activities that are viewed to accurately portray and simulate marketing principles (DECA, Inc., 2009b). Students who compete and win at lower levels earn the right to move onward to the next level of competition.

DECA, Inc. – Formerly an acronym for Distributive Education Clubs of America, DECA is a co-curricular student organization for Marketing Education students, providing opportunities in marketing, management, and entrepreneurship. It is a nonpartisan, non–sectarian 501(c)(3) association of students, teachers, and administrators and is recognized and endorsed by all 50 state departments of education and the U.S. Department of Education (DECA, Inc., 2009a).

DECA's Annual Activities – DECA provides a series of activities that are consistent from locality to locality and are available to its members. For the purposes of this study, these events have been defined as being an officer, a voting delegate, a committee leader, a non-competitive conference participant, a workshop participant, a competitor in a competitive event, a participant in a recognition program, or as a membership campaign leader. A distinction has also been made for each of these activities with respect to the level of engagement, identifying participation for each activity at the local, district, regional, state, or national level.

State Advisors – While governance models vary from state to state, each state or province has a designated state advisor to direct the organization and act as that state's liaison to DECA, Inc.

State Association Management (SAM) Conference – The SAM Conference is a professional development experience for state/provincial advisors and key leaders. The objectives include updating association leaders on DECA, Inc. programs, management issues, and providing the opportunity to provide input into DECA, Inc. programs and activities. State advisors generally gather at this annual meeting in the summer each year (DECA, Inc., 2009a).

Summary and Overview

Chapter I introduced the concept of career and technical education, as well as the corresponding co-curricular student organizations for each of the program areas. Legislation and governmental reports have mandated that career and technical education integrate academic and technical knowledge and skills. While it is commonly believed that participation in student organizations does this through applied academics, there is little research to substantiate it. Because each of the career and technical student organizations vary widely in their strengths and weaknesses, it has been recommended that they be examined individually. Chapter I defined and described DECA, the marketing education student organization and discussed the relationship between grade point averages, length of membership, and levels of engagement in DECA's annual activities. Chapter I also established research goals, the background and

significance of the study, its limitations and assumptions, the procedures used, and a list of critical definitions as they pertain to this study.

Chapter II will review the literature on student organizations, including extracurricular activities, to determine what relevant research has been performed regarding membership and its correlation to academic performance of high school students. It will also review the foundations of career and technical education, the role of the corresponding student organizations, and will particularly focus on DECA and its role as an education tool. Chapter III will address the methods and procedures utilized to conduct this study. Chapter IV will present the findings of this study. Chapter V will summarize the results of the research, draw conclusions to the findings, and list recommendations based on these conclusions.

CHAPTER II

Review of the Literature

Educators and stakeholders involved with career and technical education feel strongly that the application oriented strategies involved with teaching the curricula necessarily reinforces academic principles. However, little empirical evidence has been provided to date to validate this assumption (Alfeld et al., 2007; Zirkle & Connors, 2003). This chapter will examine the literature surrounding this topic through the current period.

The first topic is the history of career and technical education, beginning with its roots, and emphasizing the impact of high school reform on the changes and public perception of career and technical education through the current day. The next section examines what has been written regarding career and technical education and academic outcomes, as well as other benefits of career and technical education. Finally, the literature will examine what has been written regarding career and technical student organizations, including academic achievement, motivation, engagement, and the impact of multiple years of participation. Parallels are also drawn to extracurricular activities.

Foundations of Career and Technical Education

Evidence of work-based education can be traced back more than 50,000 years where the earliest prehistoric artifacts available show evidence of tools that were used and passed down to the "student" (Lynch, 2000). A more formal form of career education can be traced to the city of Thyatira in 600 B.C. whereby artisans were trained in and belonged to a closed guild system (Orr, n.d.).

However, the discussion of the evolution of career and technical education in the United States has generally begun as an action taken in response to federal legislation, the first such legislative act being the Morrill Act of 1862 (Gordon, 2003). The Morrill Act provided funding for land grant colleges which broadened the curriculum to include a more practical education. Subsequent acts such as the Morrill Act of 1890, The Hatch Act of 1887, the Adams Act of 1907, and the Smith-Lever Act of 1914 helped to establish the role of the federal government in support of career and technical education (Lynch, 2000).

At the turn of the century, high school enrollments mushroomed as more and more families found it economically possible to keep their children in school beyond the 8th grade. Prior to this, only the children of the wealthy attended high school and a strictly academic program of study suited the needs of those in attendance (Gray, 2004). In 1914, the Commission on National Aid to Vocational Education was created in response to a public outcry that public education was not meeting the needs of all citizens. The Commission contended that while schools were open to all children, the aims of the schools did not serve students to prepare for their future vocation except the minority of students who continued in school through college (Miller, 1985). As a result of the protest, the first major federal legislative action that influenced and shaped vocational education in the United States was the Smith-Hughes Act of 1917. It was enacted to prepare young people—in part due to the industrial revolution—for practical careers. The Act addressed careers in agriculture, trade and industry, home economics, and teacher training in each of these fields (Lynch, 2000). In essence, the Smith-

Hughes Act created a high school alternative for those students who did not meet the typical high school or collegiate profile which consisted predominantly of the middle and wealthy classes of students (Gordon, 2003). While career and technical student organizations were utilized throughout this period of time, student organizations were signed into law in 1946 as an element of the George-Barden Act of 1946 (Camp, Jackson, Buser, & Baldwin, 2000).

It is noteworthy to identify the fact that the Smith-Hughes Act established a separate vocational education board, distinct from the state board for classical or traditional education. Guidelines were set regarding the amount of time learners should spend in practical and academic studies in order to continue to receive federal funding (Lynch, 2000). The original intent was to separate vocational students from the classical students. To this day a state plan for career and technical education is mandated in order to receive federal funding.

As deemed by many as the father of vocational education, Charles Prosser was the first federal Commissioner for Vocational Education, a position identified and created in the Smith-Hughes Act (Wonacott, 2003). Prosser's 16 theories of vocational education drew comparative and distinctive points between vocational and general education as can be seen in Table 2.1. Most notably, Prosser's main distinction between the two was that vocational education should be a field of study whereby the focus of learning should be on occupationally specific skills and nearly completely excluding any theoretical content (Hayward & Benson, 1993).

Table 2.1

Early comparisons between general and vocational education

Factors	General Education	Vocational Education
Basic theory	Faculty psychology	Habit psychology
Form of training	General faculty training	Specific habit training
Character of content	Standardized	Widely diversified specific content
Origin of content	Traditional selection	Experiences of competent workers
Environment	Isolated from life	Under life conditions
Special interest	Not regarded	Regarded
Special aptitudes	Not capitalized	Capitalized
Basis of admission	Ability to meet standardized academic requirements	Ability to profit by the instruction
Scope of Service	Limited—chiefly youth	Serve all groups, ages
Repetitive training	Little	Much
Qualifications of instructors	Know content	Hold specific occupational experiences
Standards	Academic	Occupational
Objectives	Appreciation and trained faculties	Ability to meet demands of a specified occupation
Method of training	Illustrations, information, exercises, pseudo jobs	On the job
Working conditions	Practically common to all courses	To meet specific needs
Leadership	General	In specific occupations
Group characteristics	Ignored	Considered
Administration	Easy, simple, rigid	Difficult, complex, elastic

(Prosser & Allen, 1925)

The next several decades led to the acceptance of career and technical education as a viable alternative education, preparing youth for the workforce. Programs were developed primarily in an effort to prepare immigrants and blue-collar workers with practical skills for work on farms, in factories, and in the home (Gordon, 2003). The focus of federal legislation shifted to provide training and support to national defense efforts in the 1920's; reduce unemployment in the 1930's; assist the war effort in the 1940's; include junior and community colleges in the 1950's; and shift industries to peacetime economic development in the 1950's and 1960's (Lynch, 2000). Historically, it was not a common mission that united each of the specific vocational programs. Rather, it was a matter of the political realities surrounding the need to gather enough votes to pass the Smith-Hughes Act. Subsequently it was the lure of federal dollars that brought these vocational groups together (Gray, 2001).

When the Soviet Union launched Sputnik in 1957, most Americans perceived a technological inferiority to the Soviets predicated on poor teaching in our schools. Within less than a year, Congress passed, and President Eisenhower signed, the National Defense Education Act, the most far-reaching federally-sponsored education initiative in the nation's history. The bill authorized expenditures of more than $1 billion for a wide range of reforms that focused on mathematics and science development of our youth. One outcome of the Act was a renewed effort in vocational education to meet critical manpower shortages in the defense industry (Phillips & Ochs, 2003).

The 1960's were a stressful time in America, characterized by a dramatic increase in youth unemployment and underemployment, a critical shortage of technicians and skilled workers, a constant need to retrain workers displaced by automation, and a growing need to provide new educational opportunities at the secondary and postsecondary levels. Congress had already enacted manpower legislation through the Department of Labor to deal with the problems of adults who were underemployed and unemployed, but something needed to be done to reduce the pool of people exiting from the high schools without the skills needed to find employment (Silverberg, Warner, Fong, & Goodwin, 2004). The Perkins-Morse Bill, better known as the Vocational Education Act of 1963, brought about significant change in federal policy and direction. The Act affirmed the federal government's commitment to career and technical education as an integral educational program for the well-being of our country. The Act essentially was a rewrite of all previous related legislation with the exception of the Smith-Hughes Act of 1917. It broadened the definition of career and technical education, and it was instrumental in developing the delivery system for career and technical education today (Hayward & Benson, 1993).

High School Reform and Career and Technical Education

The 1960's also began a period in which high school students showed a gradual yet alarming reduction in standardized test scores, and this became a focus of American educational systems (Silverberg, Warner, Fong, & Goodwin, 2004). As test scores gradually and continuously decreased, a shockwave hit the educational community in 1983 as a result of a report from the National

Commission on Excellence in Education. Their report identified "the rising tide of educational mediocrity" threatening American competitiveness and living standards (National Commission on Excellence in Education, 1983). It recommended that all teachers expect more of their students and that all high school students take a new basics curriculum of at least four credits in language arts, three credits in mathematics, science, and social studies, and a half credit course in computers. Responding to the report, many states increased academic course graduation requirements and introduced a minimum competency test requirement for receiving a high school diploma (Bishop & Mane, 2004). As a result of the public response to the report, career and technical education could no longer be an alternative educational venue. Rather, it necessarily needed to integrate academic rigor and occupationally specific skills and knowledge into the curricula.

In 1984, Congress passed the Carl D. Perkins Vocational Education and Applied Technology Act, a benchmark for present day career and technical education federal legislation. The original Perkins Act focused on the improvement of vocational programs and provided more access to those programs to students with special needs (Lynch, 2000). The Perkins Act was reissued in 1990 with a continued effort toward program improvement (Hoachlander, 2005). Significant additions were added to the subsequent reissue in 1998, and not only continued to emphasize program improvement, but it also created an emphasis on the integration of academics and occupationally specific skills and knowledge (Meeder, 2006; Brustein, 2006).

The No Child Left Behind Act of 2001, as part of the Elementary and Secondary Education Act, was signed into law on January 8, 2002, and placed a heightened emphasis on academic coursework for all students, specifically mathematics, science, language arts, and social studies in public education (No Child Left Behind Act, 2002). Perkins was again reissued in 2006, and changes in the Act were essentially rooted in continued high school reform. The new Act utilized federal funds to improve student performance and academic achievement, with accountability for academic achievement heavily integrated into career and technical education (Brustein, 2006; Meeder, 2006).

Today federal legislation has come full circle with respect to career and technical education. At the turn of the 20th century, legislation was enacted to prepare students to enter occupationally specific careers (Plank, DeLuca, & Estacion, 2005). Current-day legislation has dictated a greater integration of the practical skills needed in the workplace with academics into the career and technical education curricula (Stone, Kowske, & Alfeld, 2004). This refocus, in part, has been dictated by No Child Left Behind legislation, as a renewed emphasis on academics in all areas has mushroomed in American education (United States Department of Education, 2002). Career and technical education must continue to infuse more academic skills and knowledge into the curricula. Without such integration, policymakers will likely reduce funding for career and technical education and will continue to shift those resources into other academic areas and programs (Kazis et al., 2005).

Until recent years, career and technical education was not designed to teach academic skills (Brand, 2005). The overall academic rigor in career and technical education has progressively increased since being mandated in the third reauthorization of the Perkins Act of 1998. Along with career and technical education reform efforts, a general movement emerged to increase the amount of traditional academic coursework taken by all high school students (Stone, Kowske, & Alfeld, 2004). Career and technical education programs have responded to demands to augment program quality and student expectations and have intentionally and aggressively infused more academics into each of the respective career and technical education programs (Kazis et al., 2005). As a result, career and technical education has rapidly become an alternative pathway to postsecondary success, and it is no longer a lesser educational track (Brand, 2005).

Many students enter high school with low academic skills. Often learners in public schools are not academically driven, and therefore do not benefit directly by academic reforms (Stone, Kowske, & Alfeld, 2004). By providing a contextual learning environment, career and technical education can provide the venue for academic success for learners, especially many lesser achieving learners (Crawford, 2001; Kazis et al., 2005).

Career and Technical Education and Academic Reinforcement

As noted, beginning with the 1998 reissue, Perkins legislation has required that career and technical education support and reinforce core academic skills and knowledge (Meeder, 2006). However, because this has

been mandated only in the last decade or so, there is little empirical data to affirm the academic results of this mandate. Only in recent years has research begun to measure the effectiveness of career and technical education in the academic arena (Brand, 2005).

Stakeholders of career and technical education assert that academic rigor has always been present in the curricula. However, it is often implicit both for students and teachers (Association for Career and Technical Education, 2008; Stone & Alfeld, 2006). In fact, in a study comparing career and technical education course takers to those who did not take a career and technical education course, Lekes et al. (2007) concluded that students who took courses in career and technical education scored significantly higher on the Reading for Information subtest of the ACT WorkKeys, a job skills assessment system. The National Center for Education Statistics (2008) found that career and technical education completers reported higher postsecondary grade point averages as compared to their non-career and technical education counterparts. They stated that this pattern was detectable at the certificate, associate's degree, and bachelor's degree levels. Another study of 442 freshmen in college conducted by Ball, Garton, and Dyer (2001) showed that students who participated in Future Farmers of America had higher cumulative grade point averages and higher rates of retention while in high school than those who were not involved.

One possible explanation for such a phenomenon may be that career and technical education students find the curriculum to be an alternative that some learners find more relevant and thus more educationally effective than a purely

academic program of study (Gray, 2004; Bishop & Mane, 2004). Another may be that career and technical education includes both cooperative education and the co-curricular student organization, both of which are instructional strategies based on the curricula. Cooperative education is a strategy whereby learners are employed outside of the classroom, and teachers and training sponsors intentionally integrate the course curriculum into the workforce. The student organizations are activities that take place both in and out of the classroom and also integrate the curriculum into activities. These teaching techniques are considered to be very effective and application oriented instructional strategies (Stone & Kowske, 2004).

Level of Academics

Career and technical education concentrators as a group often enter high school less prepared than traditionally academic students. However, the achievement gap is either small or insignificant by the time they graduate from high school (Gray, 2004; Levesque, Lauen, Teitelbaum, Alt, Librera, & Nelson, 2000). Students who enter into a career and technical education focus often anchor their course taking with related academic course work. In a study of career and technical education students from 1990-2005, the National Center for Education Statistics found that academic achievement, as determined by exit test scores, was reinforced and enhanced. In addition to reinforcing levels of academics, they also found a correlation between the number of occupational courses taken and the number of academic courses taken. The more occupational courses learners took in high school, the more academic courses

they took, as well (Levesque, Laird, Hensley, Choy, Cataldi, & Hudson, 2008). Silverberg, Warner, Fong, and Goodwin (2004) also determined that over the last decade of academic reforms, secondary students who participated in career and technical education programs have increased their academic course taking and achievement.

One of the purposes of high school career and technical education is to enhance academic achievement and motivate students to learn more (Lynch, 2000). Career and technical education provides students with opportunities to gain critical mathematics, science, and literacy skills in a relevant context, utilizing principles of inquiry-based learning and exploration (Association for Career and Technical Education, 2008). Recently Congressman Buck McKeon from California noted, "Career and technical education is fundamental to our efforts to improve academic achievement at all levels so our nation remains competitive in the face of a rapidly changing global economy" (Association for Career and Technical Education, 2008, p. 5). In a teacher-led intentional infusion of mathematics in all career and technical education areas, teachers developed relevant lessons plans, enabling students to be more successful when taking tests. Students were able to put problems into a relevant context and know exactly how to solve them (Callahan, 2009).

According to Lynch (2000, p. 32), "Public schools routinely and profoundly violate all that we know about how students learn and the proper conditions under which they should apply knowledge to new situations. These practices

permeate all levels of American education." Lynch (2000) goes on to identify those conditions:

- The educational establishment assumes that people predictably transfer learning to new situations.
- Learners are best seen as passive vessels into which knowledge is poured rather than learning through active processes.
- Learning is the strengthening of bonds between stimuli and correct responses, which means breaking learning down into subjects, simpler tasks, routines, and items.
- Getting the correct answer is more important than problem solving, discovery, and deeper understanding of concepts.
- Skills and knowledge should be acquired independently of their contexts or use. (p. 32)

Lynch (2000) stated that career and technical education addresses each of these shortcomings through applied, contextual learning. Success in career and technical education requires many academic skills (Alfeld et al., 2007), but it has only recently begun to develop measures that can appropriately assess career and technical education's contribution to academic learning (Hoachlander, 2005). A significant proportion of students who need the most academic support are enrolled in career and technical education courses, and the overall rigor of career and technical education has increased noticeably at the high school level in the twenty-first century (Kazis et al., 2005). Kazis et al. noted, "As more academic curriculum is integrated into CTE (career and technical education) to

reinforce what students learn in other classes, and as CTE systems become better integrated with high school reform more broadly, the academic performance of CTE students should improve" (p. 22). Kerka (2000) noted that today's career and technical education programs offer broader career pathways than did previous vocational programs. After years of intentionally integrating academic skills and knowledge with occupational competence, students are better prepared for both employment and post-secondary education opportunities.

Because career and technical education gives students the opportunity to apply academic skills and knowledge in real-world settings, value is added to academic achievement (Kazis et al., 2005). Silverberg, Warner, Fong, and Goodwin (2004) determined that students who take both a strong academic curriculum and a vocational program of study may have better educational outcomes than those who pursue one or the other.

In a yearlong experimental study of intentionally infusing mathematics into several career and technical education courses, Stone and Alfeld (2006) concluded that the practical application of mathematics into the curricula significantly increased learners' skills as measured by standardized tests. In addition, they noted that occupational skills and knowledge did not decrease. In a similar pilot study, Parks (2010) conducted a study integrating reading literacy strategies with both career and technical education and non-career and technical education learners. Parks concluded that when learning reading in the context of a career and technical education discipline, students scored significantly higher

on reading comprehension and vocabulary scores than those of their non-career and technical education counterparts. Park attributed the improvement in reading scores to relevancy and authenticity with relationship to the reading literacy. Both studies indicated that contextual learning played a key role in mathematics and reading improvements.

Lekes et al. (2007) found similar results. While they did not find significant differences in exit grade point averages at high school graduation, they did find that career and technical education concentrators scored higher on standardized reading tests. They also reported that career and technical education students participated in more work-based learning and contextual learning than their non-career and technical education counterparts. They concluded that through these experiences, career and technical education students may have been more likely to develop the ability to read and comprehend memos, letters, policies, and bulletins—all literacy skills required to do well on standardized literacy tests. They also reported that career and technical education students were more likely to have engaged in contextual learning, participated in internships, had a mentor during high school, taken an industry certification examination, and participated in dual credit with community college enrollment.

Benefits of Career and Technical Education

In addition to academic achievement, for many learners there are additional benefits to participating in career and technical education in high school. Lynch (2000) identified the following purposes:

- Provide career exploration and planning.

- Enhance students' academic achievement and motivation to learn more.
- Enable students to acquire generic work competencies and skills useful for employment, and
- Establish pathways for continuing education and lifelong learning. (p. 4)

With career and technical education, students learn to assimilate and practice skills that would not specifically be taught in other high school classes or activities. Additional benefits include student motivation, opportunities for contextual learning, recognition of student accomplishments, networking in the business community, opportunities for leadership development, and academic achievement (Camp, Jackson, Buser, & Baldwin, 2000).

Twelve years of longitudinal data found that students who spent one-sixth or more of their time in occupationally specific courses earned an average income of 12% more than their non-career and technical education counterparts, regardless of college background. Those same graduates continued to hold 8% more earnings seven years after graduation (Bishop & Mane, 2004). In addition, the Association for Career and Technical Education (2008) reported that career and technical education programs help students achieve academic success, experience increase in earnings and improved employment outcomes, reduce dropout and absentee rates, and achieve postsecondary success. Silverberg, Warner, Fong, and Goodwin (2004) concluded that the benefits of career and technical education are clearer when examining its most important measure of success--earnings.

Research has determined students who take just one non-mandatory career and technical education course in high school significantly decrease the likelihood of a student dropping out (Walker, Hare, & Mulvihill, 2009; McNally & Harvey, 2001). Bishop and Mane (2004) concluded that students who take career and technical education courses in preparation for a career have increased attendance and improved labor market outcomes whether or not they enter into post-secondary education. Thompson, Thompson, and Orr (2003) determined that participation in career and technical education provides students with high levels of self-confidence, self-esteem, and decision making skills. Lankard (1996) concluded that career and technical education can be attributed to career development and competitiveness for employment in a high-performance economy.

In a survey of career and technical education students, Stone and Kowske (2004) said that students considered their participation in career and technical education as providing them with substantial benefits, aiding them in their development toward being a well-rounded member of society. Career and technical education students are significantly more likely than their non-career and technical education counterparts to report that they developed problem-solving, project completion, research, mathematics, college application, work-related, communication, time management, and critical thinking skills during high school (Lekes et al., 2007). Cohen and Besherov (2002) posited that many students do not have the motivation or interest in pursuing college immediately

out of high school. Career and technical education offers an alternative that helps to create a better future.

The Role of Career and Technical Education Student Organizations

Career and technical education curricula include a three-faceted instructional strategy. In addition to classroom instruction, it also includes cooperative education, as well as the co-curricular student organization (Compton, 2005). Cooperative education is a method of instruction whereby students enter the workforce and develop a training plan that is orchestrated between the student, the teacher, and the training sponsor. The teacher and training sponsor then coordinate efforts to teach skills and knowledge through the student's place of employment, thereby making the training station an extension of the high school classroom. The skills and knowledge developed are based on the career and technical education curriculum (Rojewski, 2002).

The student organization is also co-curricular, and it provides learning opportunities for learners in a variety of ways based on the course competencies (Camp, Jackson, Buser, & Baldwin, 2000). Learners take part in many educational activities outside of the classroom that include community service, leadership, competitive events, and career awareness, all reinforcing the learner's curriculum. Students learn to see the applied academics aspects of the career and technical education curricula, and the student organizations provide these unique opportunities (Plank, DeLuca, & Estacion, 2005). For example, in a quantitative study of career and technical education students, participants cited

student organizations and student involvement as a primary factor that helped them to learn new skills, prepare for change, and develop positive attitudes (Miller & Meuleners, 2000). While the 1990's witnessed a decline in enrollments in career and technical education, the integration of academics and occupational skills through student organizations is a primary reason for increased enrollments in career and technical education courses during the 2000's (Stone & Kowske, 2004). Career and technical student organizations provide an authentic form of instruction for learners (Alfeld et al., 2007), and they are essential to developing a successful career and technical education program (Zirkle & Connors, 2003).

Constructivism and Career and Technical Student Organizations

Since the inception of the Morrill Act, the implicit learning theory underlying the curricula and pedagogy of occupational education has been behaviorism, or observable and quantifiable aspects of behavior. In fact, Perkins legislation defines career and technical education, in part, as competency based, whereby learners are assessed based on their ability to complete performance objectives without respect to time or even comprehension (Brustein, 2006). With the emphasis on the integration of career and technical education and academics, the emerging theory of constructivism may be moving closer to the forefront (Savery & Duffy, 2001; Doolittle & Camp, 1999). Constructivism is the concept that learners construct their own knowledge from experience (Tam, 2000). Because student organizations provide a more authentic instructional strategy, they have become an important tool in altering instruction to motivate and engage learners in all aspects of instruction (Stone & Kowske, 2004). The

career and technical student organizations provide an alternative strategy founded in constructivism (Doolittle & Camp, 2000; Stepien & Gallagher, 1993).

While debate exists over constructivism as an ideal and superior instructional philosophy, the Secretary's Commission on Achieving Necessary Skills (1991) reported:

> The foundation is best learned in the context of the competencies that it supports. Reading and mathematics become less abstract and more concrete when they are embedded in one or more of the competencies; that is, when the learning is "situated" in a systems or a technological problem. When skills are taught in the context of the competencies, students will learn the skill more rapidly and will be more likely to apply it in real situations. Personal characteristics such as self-esteem and responsibility, to use another example, are best developed in teamwork efforts. Choosing between teaching the foundation and the competencies is false; students usually become more proficient faster if they learn both simultaneously. In sum, learning in order 'to know' must never be separated from learning in order 'to do'. (p.16)

However, not everyone agrees. Miller (2002) granted that the underlying learning theory behind student organizations is contextual or applied learning. The integration of academic and occupational curricula is said to be necessary in order to connect the work students do in school to meet the demands for the 21st century workplace. Miller asserted that the assumption that this type of active learning will raise student achievement is more theoretical than empirically

based, and he iterated that there is little evidence to support contextual learning and curricula integration's actual ability to improve student achievement.

Many approaches to instruction fall under the auspices of contextual learning, but this concept most specifically addresses the student organization as an instructional strategy. This type of learning can help keep students engaged and can also provide the real-world quality of career-focused instruction (Nickerson & Zenger, 2004). While the student organizations support learning in general, academically weak students entering high school find support and success in career and technical education through contextual learning in student organizations (Kazis et al., 2005). These co-curricular organizations are often overlooked as an integral part of a program of study that provides meaning, relevance, and experience in deeply contextualized learning of subject matter (Meeder, 2006). This study analyzed whether or not such active learning raises academic achievement as determined by grade point averages and provided empirical evidence for such a relationship.

Motivation and Engagement

With a greater emphasis on academic course taking, career and technical education and the corresponding student organizations provide a relevant motivational factor for high school students (Plank, DeLuca, & Estacion, 2005). Career and technical education offers a variety of learning experiences and opportunities, and there are many students who prefer the hands-on learning style of career and technical education. The combination of this type of learning with the student organizations keep students motivated, engaged, and in school

(Reese, 2010). Simply put, when utilized properly, student organizations help learners to enjoy learning, thereby increasing motivation (Moye, 2010). Stone and Kowske (2004) attribute the motivation factor to the increased enrollments in career and technical education over the past decade.

A recent survey study of the National FFA Organization participants showed that 83% of students found their student organization experiences to be exciting, interesting, and challenging as compared to only 32% of non-career and technical education students (Brown, 2003b). Although it is a fundamental assumption that all students can be motivated to learn (Lynch, 2000), enjoyment alone does not necessarily enhance learning. If learning is to be enhanced, then the knowledge and skills must be relevant to the individual's current situation, understanding, and goal (Hmelo-Silver, 2004). Relevancy is likely to increase motivation (Doolittle & Camp, 1999). They state that one of the purposes of high school career and technical education is to "enhance academic achievement and motivation to learn more" (p. 9). It is the school's responsibility to recognize that student organizations motivate students to stay in school longer by drawing on their interests and personal experiences, thereby showing them connections between what is learned and how it is used in the world (Lynch, 2000). Career and technical student organization activities positively affect students' academic engagement; and the stronger the students' involvement, the better the results (Lekes et al., 2007).

In describing the motivational factor for career and technical education student organizations, Kazis et al. (2005, p. 20) stated the following:

> Motivation is the key to learning. Students have to feel it is worth their while to work hard. The threat to students of negative consequences for not performing to a high standard can motivate some segments of the population, but others may be motivated more effectively by more intrinsic satisfaction and engagement. Most students of promising programs or school models look at programs that students actively choose (or at least do not resist when steered toward them).

Career and technical student organizations engage students in specific career-related learning experiences that equip them to make well-informed decisions about further education, training, and employment opportunities (Meeder, 2006). This type of contextual learning can help keep students engaged and can also provide the real-world quality of career-focused instruction (Kazis et al., 2005). In addition, students who recognize the applied academics aspects of student organizations apply greater effort to his or her academic studies (Gentry, Peters, & Mann, 2007; Plank, 2001). Students who are engaged in educational activities with a clear employment connection are the most likely to be motivated and engaged in their own education (Meeder, 2006). In addition, students often join career and technical student organizations because they believe membership experiences and competition will help to prepare them for employment in their chosen careers (Brown, 2003).

Career and Technical Student Organizations and Achievement

Career and technical student organizations have a long history in the United States and are presumed to contribute to both the academic and life

achievements of participants (Camp, Jackson, Buser, & Baldwin, 2000). Cheek, Arrington, Carter, and Randall (1994) conducted a study of the National FFA Organization participants and concluded that there was a significant correlation between student organization participation and agriscience scores. In a study of sophomore career and technical student organization members, Camp, Navaratnum, and Jeffreys (cited by Zirkle & Connors, 2003) found that participation in career and technical student organizations produced a positive contribution to student achievement as measured by student grades in high school. Alfeld et al. (2007) reported that students who participated in student organizations did not gain as much academically as their non-career and technical education counterparts throughout their high school careers. However they noted that these same students began their high school careers as higher achievers based on grades, and they did close the gap during their schooling duration.

However, little research is available to document the actual impact of co-curricular organizations on students' academic outcomes (Alfeld et al., 2007; Zirkle & Connors, 2003). Citing perceived flaws in the limited existing research activity, Camp, Jackson, Buser, and Baldwin (2000) concluded that no studies have been conducted to verify the effects of career and technical student organizations.

Despite the lack of empirical studies, there is much speculation suggesting that participation in career and technical student organizations may help participants with academic achievement. Table 2.2 shows findings from the

United States Department of Education that reveal behavioral outcomes from participation in a career and technical student organization; participation in career and technical student organizations may also provide additional benefits to its members, as the organizations provide a vehicle for individual improvement through organizational activities (Camp, Jackson, Buser, & Baldwin, 2000).

Table 2.2

Percentage of occupational teachers reporting that student activities occur frequently by whether student activity is linked to a career and technical student organization (CTSO).

	Percentage of Teachers Reporting Activity Occurs Frequently in Class	
Student Activity	No CTSO link	CTSO link
Listen to a lecture	45.8	62.7**
Write a paragraph or more	32.2	42.5**
Receive a homework assignment	33.5	32.8
Take a test or quiz	30.4	43.7**
Use computers	60.5	53.2
Use appropriate instruments, tools, or equipment	64.5	67.0
Work in groups during class	61.5	67.3
Work on extended projects	60.2	52.4
Use commercially available "applied academics" curriculum materials	11.0	11.4
Discuss or explore careers	17.7	28.3**
Apply academic skills to tasks that might be found in a job or career	61.4	67.9

**Statistically significant at the <0.001 level.

Silverberg, Warner, Fong, & Goodwin (2004)

There are four types of experiences derived from participation in a career and technical student organization: leadership, professional development, competition, and community service (Alfeld et al., 2007; Zirkle & Connors, 2003). In a survey of student organization participants, students reported the following benefits of organizational competition in this order: teamwork, responsibility, learning, competing, talking in front of others, learning a specific skill, and learning to win (Blakely, Holschuh, Seefeldt, Shinn, Smith, & Vaughn, 1993).

Alfeld et al. (2007) found that participation in career and technical student organizations produced positive outcomes for students, particularly for those who participated in competitive events. They determined that competitive events—especially at high levels of competition—provided the greatest results. Kosloski (2008) conducted a discriminant analysis of more than 2,000 high school students and determined the most pronounced determining factor for student success in competitive events was the level of preparation. It was concluded that as winning events becomes more important to students, the more likely they are to direct their own learning in preparation for those events. Career and technical student organizations also provide an authentic form of assessment not often utilized by core academic areas (Lynch, 2000). Stone and Aliaga (2003) concluded that marketing education participation had no negative effects on academic achievement, but participation in the career and technical student organizations did show a benefit in the development of leadership skills.

Career and technical student organizations help youth to link academic and technical work (Brand, 2003). They also provide additional benefits with

respect to high school persistence and provide labor market advantage (Plank, 2001). There is a direct relationship between student organizations and high school completion rates (Levesque, Laird, Hensley, Choy, Cataldi, & Hudson, 2008). Career and technical education student organizations help less motivated and more at-risk students to stay in high school and graduate (Kazis et al., 2005). In a longitudinal study of 422 students and one parent for each of those students, Cooper, Valentine, Nye, and Lindsay (1999) examined factors which led to success later in life. They concluded that extracurricular and co-curricular organizations have a significant impact. "There is a positive correlation between student involvement in co-curricular activities and success in nonacademic pursuits following high school and college. Co-curricular activity programs represent a significant and critical area of the contemporary comprehensive secondary school" (p. 375).

Wonacott (2003) determined that student organization participation reduced the likelihood of dropping out of high school, particularly for at-risk learners. Plank, DeLuca, and Estacion (2005) determined that students who take three career and technical education courses for every four academic courses taken were significantly less likely to drop out of high school. Students who participated in career and technical student organizations are also likely to earn more income following high school. Levesque, Laird, Hensley, Choy, Cataldi, and Hudson (2008) concluded that graduates who had actively participated in student organizations earned an average of 7% more income out of high school than those students without a career and technical student

organization link. Seven years after high school graduation, students earned 2% more annually for each career and technical education course they took (Hoachlander, 2005; Silverberg, Warner, Fong, & Goodwin, 2004).

Benefits of Extracurricular Activities

While little has been written about the benefits of co-curricular activities (Alfeld et al., 2007; Zirkle & Connors, 2003), extracurricular activity and high school sports have been researched. Many parallels exist between the two, as both require effort and motivation outside of the classroom. Many researchers believe that repeated successful experiences in extracurricular activities and competitive sports lead to the development of self-confidence and maturity. These traits cultivate a confident attitude and carry over into other academic and life pursuits (Broh, 2002; Fejgin, 1998; Marsh, 1992).

Holland and Andre (1987) found that extracurricular involvement may benefit students in many ways, including higher levels of self-esteem, improved race relations, involvement in political and social activity in early adulthood, educational aspirations and attainment, academic ability, and higher grades. More specifically, they found that students involved in scholastic sports had greater increases in grades during high school than did their non-participating counterparts. They attributed this difference to the competitive nature of sports. Wegner (1980) determined that extracurricular activities were beneficial to a student's self-concept, socialization, and future success. McNeal (1995) conducted a longitudinal study and concluded that extracurricular activity participation is positively correlated with improved high school grade point

averages, higher educational aspirations, increased college attendance, and reduced absenteeism.

In another longitudinal study, Broh (2002) asserted that some types of extracurricular activities have a positive impact directly on academic achievement. Broh posited that while gains did exist, not all students make the same gains as others. Broh singled out vocational "clubs" as not having a similar positive effect on academic achievement, and results for participants showed an impairment of academic achievement. However, Broh did not define "vocational clubs," so it is difficult to discern between co-curricular organizations and "clubs."

Eccles and Barber (1999) reported that students who participated in academic clubs or extracurricular activities in 10th grade had higher grade point averages at the conclusion of their high school careers, and they were more likely to be enrolled in college at age 21 than those students who did not participate outside of the classroom. Alfeld et al. (2007) concluded that extracurricular activity leads to reduced levels of high school dropouts. They determined that academic achievement is enhanced by participation in extracurricular activities—inclusive of career and technical student organizations—and concluded that positive experiences identified by student participants included teamwork, decision-making, competition, leadership, community awareness, career awareness, and personal and social development.

Marsh and Kleitman (2002) came to similar conclusions with respect to the relationship between extracurricular activities and academic achievement, noting a positive relationship between the two. They attributed the phenomenon to

extracurricular activities "leveling the playing field." Whereby most school-based activities intensify the academic gaps between students, participation in extracurricular activities appears to reduce the academic inequity gap. In a nationwide cross-section study of high school students by the College Board, Everson and Millsap (2005) analyzed the relationship between extracurricular participation and SAT® scores. They concluded that participation in extracurricular activities is related to significant gains in SAT® scores. They also determined that academic inequities are reduced when students participate in extracurricular activities.

Levels of Engagement in Career and Technical Student Organizations

Students who participate in a career and technical student organization early in their high school careers generally continue to do so during their junior and senior years (Stone & Kowske, 2004). Yet little research has been conducted to determine the impact of the number of years of participation and enhanced benefits predicated on such a persistency. Rarely have studies been conducted that take into account levels or length of participation (Alfeld et al., 2007; Stone, Alfeld, Pearson, Lewis, & Jensen, 2006; Zirkle & Connors, 2003).

Holland and Andre (1987) found that degree of involvement in extracurricular activity had a significant impact on a variety of developmental variables on high school students, including academic success as measured by grade increases throughout the high school career. Holland and Andre defined degree of involvement by measuring both the amount of time spent in such activities, as well as the number of years of participation. Neumeyer (1997)

investigated participation levels and academic achievement of the National FFA Organization members, and they found that there was a positive relationship between levels of participation and academic achievement. However, the results of the study were not generalizable due to a restricted population and sample size. Alfeld et al. (2007) found that there was a positive association between amount of career and technical student organization participation and academic motivation, academic engagement, grades, career self-efficacy, college aspirations, and employability skills. They conjectured that the benefits of career and technical student organizations can be enhanced with increased levels of participation, particularly with involvement in competitive events.

Summary

The research questions guiding this study regard the relationship between student academic achievement and student participation in DECA, An Association of Marketing Students, the marketing education career and technical education student organization. It takes into account academic achievement as measured by grades, levels of involvement in the student organization, and years of involvement in the student organization.

This chapter began with an overview of career and technical education, providing details surrounding its history and foundations in the United States. It specified key legislation that has had an impact on career and technical education, as well as analyzed the events leading to high school reform and beyond. Most notably, legislation resulting from high school reform has significantly impacted the public demand for the integration of academics and

occupationally specific skills and knowledge in career and technical education. In essence, this section helped the reader to define career and technical education, identify its role in education, and described the evolution leading up to the current state of career and technical education.

The next section examined what has already been determined about career and technical education and educational outcomes. Much of the literature suggests that career and technical education reinforces and strengthens academics and that career and technical education programs have continued to increasingly infuse academics in their curricula. In addition to academics, this section identified key literature that states that career and technical education provides benefits to its students that extend beyond simply academic benefits.

The final section discussed the role of the co-curricular career and technical education student organization. It identified literature that described career and technical education as primarily behaviorism, while the student organization tends to lend itself to more of a constructivist approach to learning. Student organization participation also increases student motivation and engagement. This section also noted that there has been a limited amount of empirical research conducted to validate such assertions. As a result, the impact of extracurricular activity and competitive sports on academic achievement was examined, as both parallel career and technical student organizations in many ways. This section also addressed whether or not the number of years of participation in such activity enhances the benefits derived from the career and technical student organization. Chapter III will provide

detailed information on the sample of the students surveyed, as well as the methods and procedures used to collect and analyze research data.

CHAPTER III

Methods and Procedures

This chapter discusses the methods and procedures utilized for the purpose of conducting this study. It describes the sample of participants, including their demographic information, academic success, and participation levels in the student organization. It also discusses the research variables, instrument adoption and usage, data collection methods and procedures, and the statistical analyses.

Sample

This sample consisted of 212 DECA members from Virginia who met all of the inclusion criteria during 2008. An attempt was made to approach all marketing education students throughout the United States via their state advisors and teachers for participation in this study. The national population of paid DECA members in 2008 was 185,000 (DECA, Inc., 2010), but the total number of students who possessed the characteristics to be included in this study was unknown, as DECA, Inc. does not track such data. However, it was known that the number of students who possessed such traits was significantly less than the population of DECA membership.

While survey information was initially collected from respondents nationally, there was a disproportionate concentration of responses from Virginian members. As a result, the researcher opted to utilize the Virginian responses only, resulting in a smaller but more concentrated sample. Responses were solicited and collected in November, 2008.

Marketing education students identified for inclusion in this study were those students who were high school seniors, were enrolled in at least one marketing education class, and were also in their third year of DECA membership. High school graduates who began their membership during their sophomore year in high school were also included. Students who began their membership in DECA during their freshman, junior, or senior years in high school were not included.

Each school or school district establishes its own guidelines for entry into the marketing education program. Many programs do not permit students to take part in marketing education during their freshman year, thereby eliminating the chance that these students meet the selection requirements. Some have only two years of course offerings for students, thereby eliminating those schools or school systems. Some established programs successfully encourage students to become members during their ninth grade year in high school, eliminating those students. Finally, some marketing education programs are not actively engaged in DECA in any way outside of local activities.

Although there are many schools that have offerings for students to meet these research criteria, it was difficult to track how many students actually began their DECA membership during their tenth grade school year. Therefore, the percentages of students who completed the survey did not necessarily reflect the percentage of students who were considered for inclusion in all schools and districts. Data were not maintained as to when a DECA member first began his or her membership, and the majority of marketing education students would not

fall into the population, thereby excluding them from this study (Acuff, 2008). However, this restriction does not identify a unique group of participants in any way other than the fact that these participants were able to provide the data necessary to gauge both academic changes and the impact of multiple years of participation. The sample assumed to be a representative sample as will be described in the procedural section of this chapter.

Research Variables

The research variables were developed in response to the research hypotheses. The dependent variable was grade point average. Once deemed as suitable for the study, each participant was asked to self-report his or her grade point average at the conclusion of his or her freshman and sophomore years. In addition, participants were asked to identify his or her exit grade point average. For high school seniors, participants were asked to enter their grade point average at the midpoint of their senior years; for high school graduates they were asked to enter their grade point average upon high school graduation. By identifying entry, midpoint, and exit grade point averages, the researcher was able to also determine academic movement with relationship to the number of years of involvement with the student organization for each participant. All grades were reported on a 4.0 grading scale.

The number of years of membership was predetermined for inclusion in this study. Each year of membership was considered to be an independent variable and would be factored in relation to grade point average movement. The second independent variable was the participants' level of engagement in

DECA's annual activities. Eight organizational activities were identified as possible ways to be involved in the student organization: as a(n) elected officer, voting delegate, committee leader, non-competitive conference participant, workshop participant, competitor in a competitive event, participant in a recognition program, and a membership campaign leader (Alfeld et al., 2007). Participants were also asked to identify whether they were involved at the local, district, regional, state, or national level for each category.

The review of the literature identified several academic outcomes as a result of taking part in extracurricular and other activities outside of the curriculum or the school environment. In an effort to isolate the impact of the career and technical student organization, an additional independent variable was examined. It included an array of extracurricular activities and volunteering. Listed were athletics (club or intramural), boy scouts or girl scouts, Boys' or Girls' Clubs, church youth group, 4-H Club, athletics (school team), band/choir, class office, foreign language club, math/science club, military, and drama. Participants were also asked to identify any additional outside activities in which they participated. Participants were then asked to identify whether they were involved at the local, regional, state, or national level for each category.

Instrument

Part of the instrument used for this study was adopted from the *Degree of Participation in CTSO* and *Extracurricular Activities* instruments utilized by Alfeld et al. (2007). The Alfeld instruments were piloted in 2004, revised, re-piloted, and met with acceptable reliability (n=2485, α >00.80). No alterations were made

to the existing instruments with the exception of omitting the elements not germane to this study such as sections that asked questions that were affective in nature.

To correlate grade point average with career and technical student organization engagement, additional information was collected. Students were asked to provide their grade point averages at the conclusion of their freshman and sophomore years in high school. Seniors were also asked to report their midpoint grade point average during the current year, and high school graduates were asked to self-report their exit grade point averages. This information allowed the researcher to address the research hypotheses by comparing grade point average movement to the levels of participation, as well as with the number of years of participation. All participants were asked to report demographic information including ethnicity and gender. They were also asked to verify which year in high school they were in at the time of the data collection, as well as to provide their unique ID number for this study. A copy of the instrument can be found in Appendix A. The data utilized for this study were the result of a database established from a study conducted in 2008 by this researcher.

Methods of Data Collection

The sample from the 2008 study showed evidence of validity and was representative due to the data collection methods. Davis (2008) presented the concept to the state advisors at the national State Association Management Conference in Atlanta, Georgia. The study was subsequently publicized to state advisors through direct e-mail and directly to high school DECA advisors on the

national Web site and in the national newsletter. All chapter advisors had access to the selection requirements, and monetary incentives of $100 were offered to all chapter advisors whose students participated. The researcher anticipated that advisors who encouraged their students to participate did so as a class activity, and all or nearly all suitable members from each chapter advisor took part in the survey. As a result, a cross-section of students from participating chapters was collected, including a variety of levels of participation and academic achievement. Survey results were collected by DECA, Inc. and were subsequently forwarded to the researcher. Permission was received by Old Dominion University's Human Subjects Committee prior to data collection (see Appendix B). These existing data will be utilized for the purposes of this study.

In order to participate, chapter advisors were first required to register for the study by completing an online form requiring school and advisor contact information. Once registered, advisors were given a unique six digit chapter code. Chapter advisors were subsequently instructed to then provide this chapter code to each suitable participant and to add a three digit number at the end for each participating DECA member (001, 002, 003, etc.). The code then allowed the researcher to recognize any duplicate entries, and it also allowed the researcher to track the origin of the participant while still maintaining anonymity for individual participants. The unique identifying code was a requirement for completion of the research inventory. The online form validated each submission and participants were not permitted to submit the form until this field had been

completed. No entries were accepted without a unique and valid identifying code.

Three chapter advisor winners of $100 gift cards were selected through a random selection based on the number of students who completed the survey, granting one entry for each student participant. The random numbers were generated online by using a random number generator at http://www.random.org. In addition, the state advisor with the most entries from his or her state also received a $100 gift card. Appendix C contains the introductory, follow-up, and instructional letters submitted to marketing education state advisors and DECA advisors for this study.

Statistical Analysis

The researcher reported descriptive statistics with respect to participant demographics, degree of participation, years of membership, grade point averages, and grade point average growth or reduction. The researcher then computed a series of ANOVAs, comparing the mean grade point averages prior to DECA membership, following one year of DECA membership, and after two years of DECA membership. In order to address the research hypotheses, there was an emphasis on the relationship to the independent variables and whether each relates to student grade point average.

Several variables were computed. Levels of engagement in DECA's annual activities were weighted based on whether or not the activity took place on the local, regional, state, or national level. More weight was given to those variables as they went up the scale. Local activities were valued at one, regional

activities were valued at two, state activities were valued at three, and national activities were valued at four. Respondents were given no value for any responses whereby they were not at all active in a given activity. The responses were originally reversed for regional and state levels, attributing a value of three for state activities, and a value of four for regional activities. Therefore this had to be reversed before computations could be made. This was corrected by transforming regional activities to a value of three and state activities to a value of four.

Several new variables were computed with respect to grade point average, engagement in DECA's annual activities, and extracurricular involvement. A variable was computed to determine the difference between each respondent's entrance grade point average as compared to their exit grade point average. The entrance grade point average was subtracted from the exit grade point average, and the difference identified and subsequently named GPAMove. Once this had been computed, a dummy variable named GPAUp was created to determine whether or not each respondent's grade point average increased or decreased during their membership in DECA.

The second series of variables that were created pertained to each participant's level of engagement in DECA's annual activities. The first variable created was to determine each participant's first year level of engagement in DECA's annual activities and was named PreInv. The variable was computed by summing the values of each participant's responses to their first year engagement in DECA's annual activities with progressive weighting on local,

regional, state, and national activities. A similar variable was created for engagement levels during their senior year, summing levels of engagement on the same scale. A third variable named InvTot was created, identifying total engagement by summing all of the involvement scores. Finally, a fourth engagement variable was created to categorize each participant's level of engagement based on the total involvement scores. A frequency report was also conducted in SPSS® and the midpoint percentile cut score was determined. A dummy value was created to identify those students with higher and lower levels of engagement. The variable was named InvTotCat.

The last series of variables created surrounded extracurricular activity. Participants were asked to identify extracurricular activity that held progressive weighting based on their levels of participation at the local, regional, state, and national levels, similar to the involvement scale. Participants were asked to identify all extracurricular activities and levels of participation and were able to write in any extracurricular activities that were not included on the original form. Values for each were summed, providing the researcher with a total extracurricular involvement score named XTotInv. Once this score had been created, a frequency report was conducted in SPSS to determine the value of the fiftieth percentile cut score. A dummy value was created to identify those students with higher and lower levels of extracurricular activity. The variable was named XTotCat. No additional transformations were required.

A one-way repeated-measures ANOVA was conducted with the factor being the year of membership and the dependent variable being grade point

average. Determinations were made regarding whether there was a significant time effect with respect to the number of years of participation in DECA in relation to grade point average. Follow-up polynomial contrasts were also conducted to determine if there was a significant linear effect over time.

A two-way analysis of variance was conducted to evaluate the effects of levels of engagement in DECA's annual activities and extracurricular activities on grade point average growth or reduction throughout each participant's membership period in DECA. The means and standard deviations for grade point average improvement as a function of the two factors were computed, as well as the main effect for levels of participation in DECA. A Levene's test was conducted to determine the homogeneity of variance.

Summary

Chapter III described the methods and procedures utilized to conduct this study. The sample was examined and defined as marketing education students who were members of DECA during their sophomore year in high school and are currently in their third year of membership. High school graduates who began their membership during their sophomore year were also included. Demographic characteristics were also collected. The dependent research variable was defined as grade point average movement while having a membership in DECA. The independent variables were defined as the number of years as a DECA member, as well as the levels of engagement in the organization.

The methods for collecting the data were described. Contact was made with DECA, Inc. and participation in a prior study was initiated by the DECA, Inc.

Executive Director by contacting both DECA state advisors and marketing education teachers. Using an instrument developed by Alfeld et al. (2007), and adding a grade point average component to the instrument, data were collected. The instrument measured demographic information, grade point average movement, degrees of engagement in DECA's annual activities, years of membership in DECA, and took into account extracurricular activities.

Finally the statistical procedures and computations were outlined. Several variables were transformed, and new variables were created. The statistical analyses were computed utilizing a one-way repeated-measures ANOVA and a two-way ANOVA to respond to the research hypotheses. The findings of the data collection will be reported in Chapter IV.

CHAPTER IV

Findings

The problem of this study was to determine if there was a relationship between membership in the marketing education student organization (DECA) and academic success of high school students as indicated by grade point average. Three hypotheses were developed to guide this study. They were:

H_1: There is a positive relationship between DECA membership and high school grade point average.

H_2: The positive relationship between DECA membership and high school grade point average is amplified with multiple years of membership.

H_3: There is a positive relationship between the degree of engagement in DECA's annual activities and high school grade point average.

A nationwide survey was used to collect the necessary data. This chapter provides the outcomes of that survey, as well as the statistical analyses applied in response to these hypotheses.

Response Rate

There were 363 valid and suitable responses to the survey (n=363) originating from eleven states across the United States, not inclusive of those responses that were deemed as not possessing the traits to be included in this study. Responses not considered. Ineligible responses were those that did not include an assigned identifying number or those where the respondent had omitted critical elements of the survey such as entrance or exit grade point average. Of the 363 responses meeting the selection criteria for the study, 230

were from students who attended a high school in Virginia. Because there were a disproportionate number of Virginians who participated in the study, the researcher decided to use only those responses that originated from a Virginian student. The purpose for this was to knowingly utilize a smaller yet more concentrated sample. Of the 230 Virginian responses, 18 were removed due to incomplete data, leaving 212 cases for analysis after data screening (n=212).

Data Screening

Data were examined for apparent missing values and anomalies. Frequencies were conducted, and one value was missing for one case. The missing value was the midpoint GPA which did not warrant the exclusion of the case. There were 230 cases total. Of the 230 cases, 18 were removed from the study. This left a useable sample of 212. Seventeen of those removed included all responses with the default "does not apply" response for each question other than the identification number. The researcher made the assumption that these respondents opted to simply enter their identification number and nothing more. The final respondent removed from the study reported an exit grade point average of 348. While the respondent may have intended to enter a 3.48, a decision was made to delete the case rather than to make that assumption.

Transformations

Several new variables were computed. Levels of engagement in DECA's annual activities were weighted based on whether the participatory activity took place on the local, district, regional (within the state), state, or national level. More weight was given to those variables as the participation level reached

beyond the locality. Local activities were valued at one, district activities were valued at two, regional activities were valued at three, state activities were valued at four, and national activities were valued at five. Respondents were given a value of zero for any responses that indicated no engagement in a given activity. The responses from the online form were originally reversed for regional and state levels, attributing a value of three for state activities and a value of four for regional activities. Therefore this had to be reversed before computations could be made. This was corrected by transforming regional participation to a value of three and state participation to a value of four. An analysis of the ethnicity category provided evidence that there were a limited number of respondents who were classified as Asian, Hispanic, American Indian, or other. As a result, a dummy code was created for ethnicity to categorize respondents as white, black, or other. Gender and ethnicity demographics for the respondents can be found in Table 4.1.

Table 4.1

Demographic Information for Inventory Respondents

		Ethnicity			
		White	Black	Other	Total
Gender	male	60	16	14	90
	female	93	10	19	122
Total		153	26	33	212

Several new variables were computed with respect to grade point average, engagement in DECA's annual activities, and extracurricular involvement. A variable was computed to determine the difference between each respondent's entrance grade point average relative to their exit grade point

average. The entrance grade point average was subtracted from the exit grade point average, and the difference was identified and subsequently named GPAMove. Once this had been computed, a dummy variable named GPAUp was created to determine whether or not each respondent's grade point average increased or decreased during their membership in DECA.

The second series of variables that were created pertained to each participant's level of engagement in DECA's annual activities. The first variable created was to determine each participant's first year level of engagement in DECA's annual activities and was named PreInv. The variable was computed by summing the values of each participant's responses to their first year engagement levels with progressive weighting on local, district, regional, state, and national activities. A similar variable was created for engagement levels during their senior year, summing levels of engagement on the same scale. A third variable named InvTot was created, identifying total engagement by summing all of the involvement scores. Finally, a fourth involvement variable was created to categorize each participant's level of engagement based on the total involvement scores. A frequency report was conducted in SPSS®, and it was determined that the value of the fiftieth percentile cut score was 4.50. Therefore, a dummy value was created to identify those students with a score of 4.49 or less to be determined as less involved, and participants with an involvement score of 4.50 or higher to be more engaged. The variable was named InvTotCat.

The last series of variables created surrounded extracurricular activity. Participants were asked to identify extracurricular activity that also held progressive weighting based on levels of participation at the local, district, regional, state, and national levels, similar to the involvement scale. Participants were asked to identify all extracurricular activities and levels of engagement, and they were able to write in any extracurricular activities that were not included on the original form. Values for each were summed, providing the researcher with a total extracurricular involvement score named XTotInv. Once this score had been created, a frequency report was conducted in SPSS®, and determined that the value of the fiftieth percentile cut score was a value of 3.00. Therefore, a dummy value was created to identify those students with a score of 2.99 or less to be designated as having a lower level of extracurricular activity, and participants with a score of 3.00 or higher having a higher level of extracurricular activity. The variable was named XTotCat. No additional transformations were required.

Statistical Analyses

To address the first research hypothesis regarding the relationship between membership in DECA and grade point average, descriptive statistics and a one-way repeated measures analysis of variance were computed. The means and standard deviations for grade point averages are presented in Table 4.2 including results for entry, midpoint, and exit grade point averages. It should be noted that 139 of the cases showed an increase in grade point average, while only 74 cases showed no gain or a decrease in grade point average.

Table 4.2

Means and Standard Deviations of Grade Point Averages

	M	SD
EnterGPA	3.19	.67
MidGPA	3.24	.67
ExitGPA	3.32	.66

The one-way repeated measures analysis of variance was conducted with the factor being the number of years of membership in DECA and the dependent variable being grade point average. The results for the analysis of variance indicated a significant increase based on grade point average increases between the entry and exit measurements, Wilks's $\Delta = .88$, $F(2, 209) = 14.14$, $p < .001$, multivariate $\eta^2 = .12$.

To address the second research hypothesis regarding the amplification of academic gains with multiple years of membership in DECA, the results of the same computations were analyzed. An examination of the results showed that 106 of the respondents had an increase in grade point average between the pre-membership year and the end of the first year, 50 respondents showed a decrease, and the remaining 56 remained constant with no movement. Between the end of the first and second years of membership, 126 respondents showed an increase in grade point average, 49 showed a decrease, and the remaining 37 remained constant. A graphical representation of these movements can be seen in Figure 4.1.

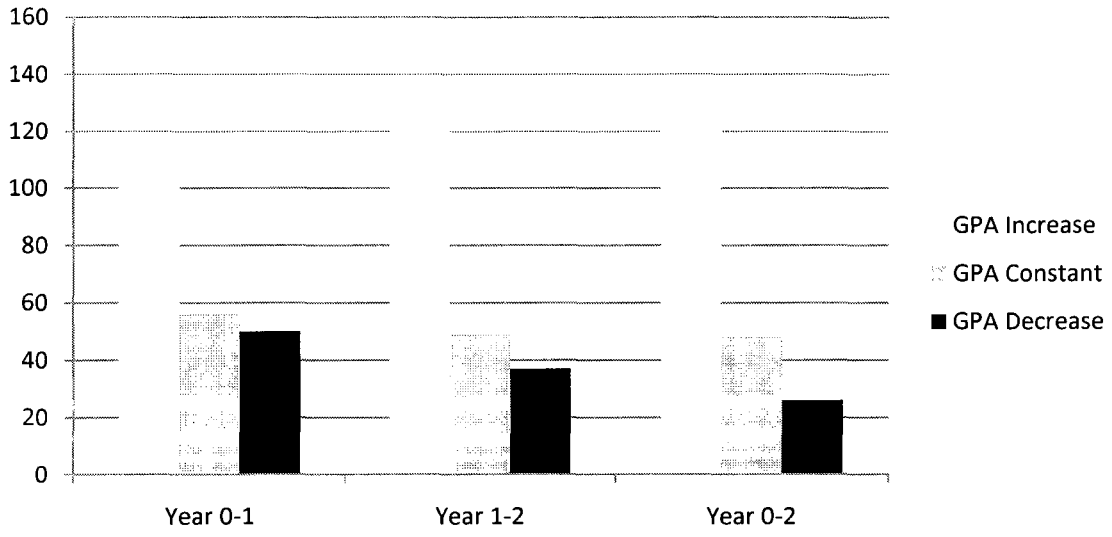

Figure 4.1. A comparison of the number of grade point average increases between years of DECA Membership.

The results for the analysis of variance indicated, as noted above, show a significant increase based on grade point average increases between not only the entry and exit measurements, but also between the first and second years of membership, Wilks's $\Delta = .88$, $F(2, 209) = 14.14$, $p < .001$, multivariate $\eta^2 = .12$.

Follow-up polynomial contrasts indicated a significant linear effect with mean grade point averages increasing with a second year of membership, $F(1, 210) = 26.00$, $p < .001$, partial $\eta^2 = .962$. Higher order polynomial contrasts were not significant.

Pairwise comparisons between years of participation indicated a significant increase in grade point average with each year of membership. The results indicated that the exit grade point averages ($M = 3.32$, $SD = .66$) were significantly greater than the mean for entrance grade point averages ($M = 3.19$, $SD = .67$), $MD(0.13)$, $p < .001$. The 95% confidence interval for the mean difference between the two ratings was .08 to .18. The results indicated that the

exit grade point averages (M = 3.32, SD = .66) were also significantly greater than the mean for midpoint grade point averages (M = 3.24, SD = .67), MD(0.09), $p < .001$. The 95% confidence interval for the mean difference between the two ratings was .05 to .12. Finally, the results indicated that the midpoint grade point averages (M = 3.24, SD = .67), $p < .01$ were significantly greater than the mean for entrance grade point averages (M = 3.19, SD = .67), MD(0.45), $p < .001$. The 95% confidence interval for the mean difference between the two ratings was .11 to .78. The results of these pairwise comparisons can be seen in Table 4.3 and Figure 4.2.

Table 4.3

Comparisons of Grade Point Averages and Year of Membership

(I) YrOfInvol	(J) YrOfInvol	Mean Difference (I-J)	Std. Error	Sig.[a]
0	1	-.045*	.017	.010
	2	-.133*	.026	.000
1	0	.045*	.017	.010
	2	-.088*	.018	.000
2	0	.133*	.026	.000
	1	.088*	.018	.000

Based on estimated marginal means

*The mean difference is significant at the .05 level.

a. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

The third hypothesis stated that there is a positive relationship between the degree of engagement in DECA's annual activities and high school grade point average. To examine this relationship, a one-way analysis of variance was

computed with the degree of engagement being the independent factor and grade point average being the dependent variable. Degree of involvement in extracurricular and outside activities was also integrated into the analysis of variance as a confounding factor.

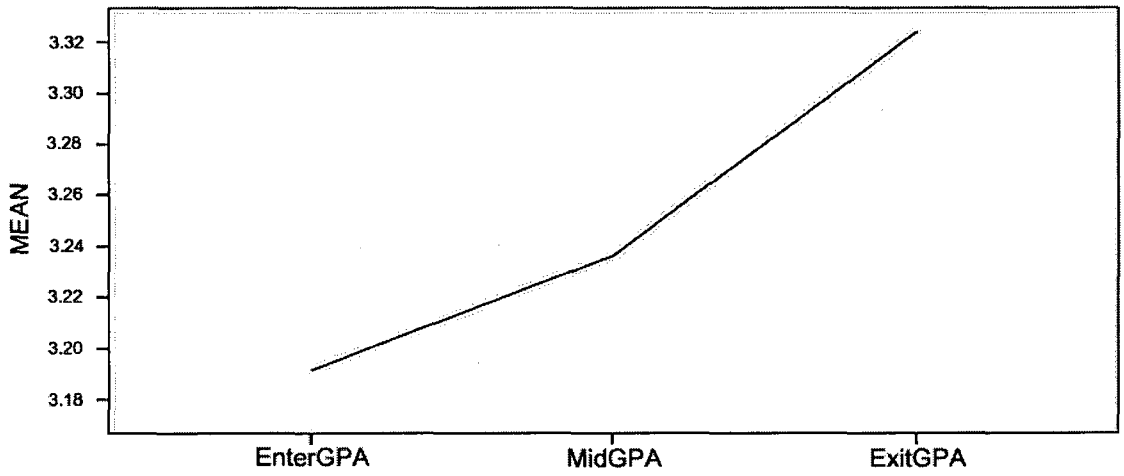

Figure 4.2. Entry, Midpoint, and Exit Grade Point Averages Based on Year of Membership

The analysis of variance indicated no significant interaction between levels of engagement in DECA's annual activities and extracurricular activities, $F(1, 203) = 0.13$, $p = .909$, partial $\eta^2 < .01$ or with the main effect for extracurricular activities, $F(1, 203) = .77$, $p = .381$, partial $\eta^2 < .01$. However, there was a significant main effect for levels of engagement in DECA's annual activities, $F(1, 203) = 5.71$, $p = .018$, partial $\eta^2 = .027$. As indicated by Levene's test, the homogeneity of variance is acceptable, $F(3, 208) = 1.43$, $p = .23$. The involvement main effect indicated that participants who had higher levels of engagement in DECA's annual activities tended to have greater improvements in grade point averages than those who had lower levels of involvement.

Summary

The problem of this study was to determine if there was a relationship between engagement in the annual activities of the marketing education student organization (DECA) and academic success of high school students as indicated by grade point average. To address the research hypotheses, a nationwide survey was disbursed to DECA members through DECA, Inc., and information was collected regarding member demographics, entry, midpoint, and exit grade point averages, as well as the degree of engagement in both DECA's annual activities and extracurricular activities. A total of 363 responses were submitted. Because a disproportionate number of submissions were from Virginia members, the data were used for Virginian members only to create a more concentrated database. There were 212 resulting responses from participants possessing the traits to be included in this study.

The data were analyzed with relationship to the research hypotheses. To address the first and second research hypotheses regarding the relationship between engagement in DECA's annual activities and grade point average, descriptive statistics were analyzed and a one-way measured-pairs analysis of variance was conducted with the factor being the number of years of membership in DECA and the dependent variable being grade point average. In response to the third hypothesis relating to the degree of engagement in DECA's annual activities as it relates to grade point averages, a two-way analysis of variance was conducted to evaluate the effects of levels of engagement in DECA's annual activities and extracurricular activities on grade point average

growth throughout each participant's membership period in DECA. An analysis of these findings will be presented in Chapter V, Summary, Conclusions, and Recommendations.

CHAPTER V

Summary, Conclusions, and Recommendations

This study examined the relationship between student membership in DECA, An Association of Marketing Students, and its relationship to academic success as determined by grade point average. This chapter summarizes the study, presents conclusions based on the findings, and makes recommendations for future studies related to this topic.

Summary

Virtually every high school student in the United States takes at least one career and technical education course during their high school career, and approximately one in four takes three or more courses in a concentrated program area (United States Department of Education, 2008). There are seven nationally recognized career and technical education program areas and eight corresponding career and technical student organizations (Gordon, 2003).

Career and technical education can provide a three-faceted content delivery approach that includes classroom instruction, cooperative education, and the corresponding co-curricular student organization for each discipline (Stone & Kowske, 2004; Gordon, 2003). Student organization activities are designed to provide contextual, problem-based learning environments and situations whereby individual students or student teams investigate and find solutions for realistic, open-ended problems. This type of learning requires students to apply both academic and career and technical skills and knowledge,

and it should necessarily reinforce and enhance not only career skills and knowledge but also academics (Brown, 2003b).

Marketing education and its corresponding career and technical education student organization—DECA, An Association of Marketing Students—integrates mathematics, reading, writing, and social competence in its events and activities as a part of the marketing education curricula. The student organization provides its members a unique opportunity to apply those academic elements of the curricula into leadership and competitive activities (DECA, 2009b). Not only should this application of academics enhance and reinforce the marketing curricula, but it should also enhance and reinforce academic principles. Therefore, this study is important and contributes to the literature by validating the purpose of the student organization as it relates to both the marketing curricula and core academics.

While there are many similarities between the eight nationally recognized career and technical student organizations, there are also many differences (i.e., content focus, competitive events structure, leadership opportunities, etc.). Because of those differences, individual studies for each of the organizations should be conducted separately so that the unique strengths and weaknesses of each organization are identified. Camp, Jackson, Buser, and Baldwin (2000) recommended that separate, programmatic research be conducted with respect to career and technical student organizations.

The problem of this study was to determine if there is a relationship between membership in the marketing education student organization (DECA)

and academic success of high school students as indicated by grade point average. To guide this research, the following hypotheses were established:

H_1: There is a positive relationship between membership in DECA and high school grade point average.

H_2: The positive relationship between membership in DECA and high school grade point average is amplified with multiple years of membership.

H_3: There is a positive relationship between the degree of engagement in DECA's annual activities and high school grade point average.

There were several limitations to this study. First, because a pre-membership grade point average benchmark needed to be established for each participant, only high school seniors in their third year of membership were selected for participation. Therefore each participant in this study was not a member of DECA during their freshman year in high school, but was a member in subsequent years. Second, grade point averages were anonymously self-reported. Third, members were approached for participation in this study through a higher level of authority, most often their marketing education teacher. Some teachers may have asked students to participate voluntarily, while others may have encouraged members to participate as part of a class activity. Fourth, DECA provides a wide array of competitive events and leadership activities, and the events and activities offered to students are selected largely at the discretion of the individual teacher. As a result, while the events and activities have many commonalities, the research participants have likely not all participated in an

identical combination of events and activities. Finally, while there are many commonalities between the career and technical student organizations (Camp, Jackson, Buser, & Baldwin, 2000), caution should be taken with respect to projecting the results of this study to other career and technical student organizations.

The population for this study was any student who was not a DECA member during their freshman year in high school, but became a member during their sophomore year and remained so throughout their high school career. This restriction greatly limited the number and percentage of members who were percentage of members who possessed the characteristics to take part in this study, but for those who did,, provided a grade point average benchmark with which to compare future grades throughout their tenure as DECA members. No other distinctions should be made between participants included in this study.

There were 363 responses to the survey that met the requirements for inclusion (*n*=363*)* originating from eleven of the United States. Because there were a disproportionate number of the responses from Virginia, the researcher opted to utilize only the Virginia responses, providing a smaller yet more concentrated sample (*n*=212).

Part of the instrument used for this study was adopted from Alfeld et al. (2007). The instrument remained in its original form, but did not include a series of affective questions included on the original inventory as they were not relevant to this study. Questions regarding entry, midpoint, and exit grade point averages

were added as a separate part of the survey. Members were also asked to verify their year in school for the sake of being selected for this study.

Data collection was initiated by DECA, Inc. through contact with state advisors and marketing education teachers throughout the country. In order to participate, teachers first had to register and attest that one or more of their students met the inclusion standards. Once registered, teachers were then given a formula that generated a unique identifying code for each participant. Teachers then provided the appropriate members with access to the online inventory. Data were subsequently compiled and aggregated.

To address the first two research hypotheses regarding DECA membership, grade point average movement, and grade point average based on multiple years of membership, both descriptive statistics and a one-way repeated measures analysis of variance were conducted. The findings for the analysis of variance indicated a significant time effect based on DECA membership, Wilks's $\Delta = .88$, $F(2, 209) = 14.14$, $p < .001$, multivariate $\eta^2 = .12$. The results indicated a significant increase in grade point average during the first year of membership. They also indicated that there was a significant increase in grade point average between the first and second year, verifying that the positive relationship between DECA membership and grade point average is amplified with multiple years of membership.

To address the third research hypothesis relating the degree of engagement in DECA's annual activities to grade point average, a two-way analysis of variance was conducted. The computations included each

participant's level of engagement in DECA's annual activities, placing more weight on activities extending beyond the local level. Weighting was based on local, district, regional, state, and national activities. A variable was also created to take into account extracurricular activities and other activities outside of school and were provided with similar weighting.

The analysis of variance indicated no significant interaction between levels of involvement in DECA and extracurricular activities, $F(1, 203) = 0.13$, $p = .909$, partial $\eta^2 < .01$ or with the main effect for extracurricular activities, $F(1, 203) = .77$, $p = .381$, partial $\eta^2 < .01$. However, there was a significant main effect for levels of engagement in DECA's annual activities, $F(1, 203) = 5.71$, $p = .018$, partial $\eta^2 = .027$. As indicated by Levene's test, the homogeneity of variance was acceptable, $F(3, 208) = 1.43$, $p = .23$. The involvement main effect indicated that participants who had higher levels of engagement in DECA's annual activities had significantly greater improvements in grade point averages than those who had lower levels of involvement.

Conclusions

The following conclusions were drawn following analysis of the findings as they related to the problem statement and the research hypotheses. The first research hypothesis guiding this research stated that there was a positive relationship between DECA membership and high school grade point average. The results of a one-way analysis of variance indicated a significant time effect based on any specific period of time during membership with relationship to grade point average.

In examining descriptive statistics, the mean entry grade point average for participants was *M*(3.19), while the mean grade point average after two years of DECA membership was *M*(3.32) resulting in an increased grade point average of 0.088. In addition, 139 of the cases showed an increase in grade point average, while only 73 cases showed no gain or a decrease in grade point average.

The results verify significant increases in grade point averages to hold true based on a single year of membership. It can be concluded that there was a relationship between membership in DECA and an increased grade point average for its members. This was particularly apparent given the fact that the entry grade point average for participants was already elevated at 3.19 on a 4.0 scale. This also supported the assertion that many of the students who opt to participate in DECA "are good students to begin with" (Stone, Alfeld, Pearson, Lewis, & Jensen, 2006, p. 30).

One explanation for this is the very nature of the organizational activities. DECA's annual activities consist largely of leadership opportunities and competitive events. Such learning activities are intentionally career-based and contextual in nature. Research provides evidence that contextual learning does enhance learning (Lekes et al., 2007; Nickerson & Zenger, 2004; Miller, 2002). Given that the student organization is also integrated with classroom instruction and cooperative education, the opportunity for learning should be enhanced for each of its members. It also provides members with additional venues for learning academics. Finally, assuming that DECA's annual activities do integrate academics (Brustein, 2006; Meeder, 2006; Bishop & Mane, 2004; Stone &

Kowske, 2004), then those academic principles are also supported by each member's academic classroom learning. Organizational activities would then be supported on multiple levels.

It stands to reason that if high school students shift from a classroom philosophy of learning to an applied philosophy of learning—or a combination thereof—then those students may respond immediately, resulting in an increased grade point average during their first year of membership.

The second research hypothesis states that the positive relationship between DECA membership and high school grade point average is amplified with multiple years of membership. Comparisons can not only be made from the pre-membership benchmarked grade point average, but can also indentify grade point average movement between the end of the first and the end of the second year of membership. While the mean difference between pre-membership and first year grade point averages increased, $MD(.045)$, $p<.01$, the difference between the end of the first and second years showed significant increases at an even greater level. During the second year of membership grade point averages increased from $M(3.24)$ to $M(3.32)$, or $MD(.088)$, $p<.001$, and nearly twice that of the first year of membership. This supports the assertion of Alfeld et al. (2007) that the benefits of DECA are enhanced by multiple years of membership as a result of an increase in awareness and motivation levels for its members.

Ironically, follow-up tests indicated that, while not significant, the number of events and activities that members participated in actually decreased slightly during their second year of membership as compared to their first year.

However, this quantitative number is in no way indicative of the degree of engagement for each individual event or activity. It is believed that many members engage in their first year of membership in a tentative fashion. It is possible that members often are not fully aware of the opportunities provided them through membership until having been exposed during their initial year. It is also possible that while they may or may not be aware of the opportunities provided, they are more motivated by those opportunities once they have witnessed their peers reaping rewards from such events and activities. Watching a peer take on a leadership position or travel to a conference can be a strong motivating factor for many students if they know that those same opportunities for are within their grasp.

Finally, if the contextual and problem-solving activities do enhance learning (Lekes et al., 2007; Nickerson & Zenger, 2004; Miller, 2002), it would be logical to assume that there is a prolonged and cumulative effect, much like taking multiple years of mathematics or a foreign language. Multiple years of membership may provide building blocks for learning, with each year of membership reinforcing and adding onto the previous year.

The third research hypothesis avers that there is a positive relationship between the degree of engagement in DECA's annual activities and high school grade point average. Extracurricular activities were not determined to play a significant factor in grade point average movement, nor were the interaction between levels of engagement in DECA's annual activities and extracurricular activities. However, levels of engagement in DECA's annual activities did show a

significant impact. Therefore it can be concluded that DECA members who are more deeply immersed in DECA's annual activities reap greater academic gains than those members who participate more passively.

One plausible explanation for this phenomenon is that members who take part in more and higher levels of DECA's annual activities increase the amount of individual contextual and problem-based learning that occurs. If contextual learning does, in fact, enhance learning (Lekes et al., 2007; Nickerson & Zenger, 2004; Miller, 2002), then it would stand to reason both higher quantities and magnitudes of such learning would also amplify the gains. Members who become more deeply engaged with these activities would necessarily experience greater levels of both quantity and magnitude.

Another explanation for the grade point average increases may be that students are able to comprehend the connection between DECA's annual activities and how those activities parallel academics and employment. Employment oriented contextual learning can keep students engaged (Kazis et al., 2005), and those who can most see the connection between academic activities and employment are the most likely to be engaged in their own education (Meeder, 2006). In addition, those who can make an employment connection to organizational activities are the most likely to take control of their own education (Brown, 2003b) and apply greater effort (Gentry, Peters, & Mann, 2007; Plank, 2001).

A final explanation may be quite simplistic. While enjoyment alone does not necessarily enhance learning (Lynch, 2000), enjoyment of a true educational

activity can keep learners more engaged in that learning activity (Barab, Thomas, Dodge, Carteaux, & Tuzun, 2005). Therefore, if DECA members find participation in DECA's annual activities enjoyable, they are more likely to immerse themselves in those activities, thereby benefitting from the activity. In addition, when students can connect a specific goal to an activity, they tend to immerse themselves deeper into that activity (Hmelo-Silver, 2004). DECA's annual activities offer its members many opportunities for not only intrinsic rewards, but also provides socialization, prestige, and travel opportunities that members might not otherwise be afforded. In other words, there are many rewards for accomplishments that might not be provided in other educational venues or disciplines. As a result, members may often seek out the enjoyment or rewards offered through DECA's leadership and competitive events opportunities, thereby not only increasing their desire to take part in those activities but also to be successful in them.

This study did indicate that extracurricular and other outside activities did not show significant increases in academic outcomes for this sample. This is contrary to what is written in much of the literature with respect to the benefits of extracurricular activities (Marsh & Kleitman, 2002; Broh, 2002; Cooper, Valentine, Nye, & Lindsay, 1999). One possible explanation is that because DECA provides so many different leadership and competitive events opportunities that those students who feel passionately about their role in DECA desire to seek out additional DECA opportunities rather than seeking additional extracurricular activities. Another explanation may be that while members do not

necessarily seek out additional events and activities, they may intensify their engagement levels in those events and activities. Many of these events and activities occur for an entire school year, such as competitive events preparation, and the increased amount of time and effort spent on such activities may inhibit more passionate members from delving deeply into other extracurricular or outside activities.

Recommendations

The following recommendations for researchers and practitioners are based on the findings and conclusions of this study.

1. While this study focused on grade point averages of DECA members, standardized test scores are also commonly utilized for measuring student learning and progress, and virtually all school systems utilize one or more standardized tests. Because the results of standardized tests already exist, research similar to this study should be conducted using those data. Examining standardized tests results for DECA members would provide benefits not seen in this study. First, it would ensure that every member of DECA could be analyzed. It could also provide as many as four years worth of data for any given member, while this study only provided two complete years worth of data. It would also permit the researcher to compare the results of DECA members against the remainder of the school population, possibly providing very meaningful insight. By extrapolating test scores for DECA members and comparing them to the remaining student

population—particularly over an extended period of time—a long-term impact could be derived.

Analyzing standardized testing would also provide the researcher the possibility of identifying specific academic gains by discipline or subject matter. For example, it may be discovered that DECA members show an overall academic gain in mathematics but not in science. Because many standardized tests do provide test scores by subject matter, isolating the gains may be possible.

2. Research identifying academic gains should be conducted for the other seven career and technical student organizations. Doing so would provide a valuable tool for pinpointing strengths and weaknesses in career and technical student organizations as a whole, as well as to identify those strengths and weaknesses for each individual career and technical student organization. Stakeholders in these organizations have clamored for more empirical evidence of success for years. There are advantages and disadvantages to providing research results collectively and independently, but such research needs to be conducted. Once results are analyzed for each career and student technical organization, those same results can also be utilized as a starting point for evaluation and improvement of each of the respective organizations.

One study conducted by Broh (2002) singled out vocational "clubs" as having a negative impact on academic achievement. One

flaw in this study was that Broh did not define vocational "clubs," and thereby did not define the source of the academic impairment. However, if such impairment does exist within one or more of the co-curricular career and technical student organizations, conducting separate and individual research would help to isolate those organizations that need improvement and those who are supporting both career and technical and academic outcomes.

3. While this study did examine levels of engagement in DECA's annual activities with relationship to grade point average, it counted activities, providing more weight to those activities that presumably require more effort on the part of the member. However, this is not the only way that one could compare levels of engagement. While some members may be active in multiple levels of events and activities, others may limit the number of activities and events in which they participate, but that does not necessarily indicate a lower level of engagement.

    Some DECA members become intensely immersed in only one or two events or activities and spend inordinate amounts of time in such activities. A typical example would be a competitive event. Some DECA members prepare all year for a single competitive event in the hopes that they will achieve success in that event. As a result, research should be conducted to determine the amount of time spent on DECA activities and events as opposed to only the quantity and levels of those activities and events. While multiple activities and

events surely is indicative of the amount of time engaged in activities, another measure would be to compare the number of hours spent in those events relative to academic gains.

4. The cooperative education method of instruction provided through marketing education plays an integral role in the marketing education curriculum, and it provides an additional method of contextual learning for the marketing education student. Research should be conducted to examine both the student organization and cooperative education methods of instruction relative to academic gains. While each method provides contextual learning, and while each method also can stand on its own merits, research may be conducted to determine the interaction, if any, between the two.
5. Practitioners in career and technical education should consider making greater strides to collect and analyze data and promote results that support outcomes of the career and technical student organizations. While teachers and administrators are mired in administrative duties already, the effort required to collect and aggregate data related to academic outcomes would be quite minimal. Standardized scores are already in place and only need to be extrapolated, and individual teachers already collect data as required for their respective state plans under Perkins legislation (Brustein, 2006). It would require only minor revisions to the questions asked under most state plans to

collect adequate empirical data that will validate the impact of career and technical student organizations.

Once collected, it is critical that these data be used, and success stories promoted. For example, studies may be conducted to identify the number of career and technical education students who move on to postsecondary education or to compare their academic achievement to non-career and technical student counterparts. All too often career and technical education is viewed as an "alternate" education, and often for those students not on a college-bound academic track. This is simply not the case. Yet until stakeholders truly understand the value of career and technical education—including administrators, teachers, guidance, parents, and the public-at-large—then career and technical education will suffer with that "alternative" education perception, despite its lack of reality. If stakeholders in career and technical education do not initiate such a perception change by providing more empirical data, no one will.

6. Additional research should be conducted utilizing the data collected for this study. The first such research would compare the results from this study against similar results of the remaining states. Such a comparison would help to lend credence regarding the generalizability of the study should the comparison be similar.

The second study that should be conducted using these data is one that would draw a relationship, if any, between the levels of

engagement (i.e. local, district, regional, state, national) and their individual impact on academic success as determined by grade point average. Should such a relationship exist, and should activities offered at a broader venue prove to show greater academic gains on academic performance, then stakeholders could be encouraged to seek ways to increase the number of students who participate on a broader level.

7. Finally, efforts should be made to work with DECA, Inc. in disseminating the results of this study to student organization stakeholders. Findings and conclusions should be summarized and provided to DECA, Inc. for distribution in newsletters and other publications for teachers and students. Results should also be distributed through DECA, Inc. to state advisors and other state level administrators. Results can then be utilized as another source that validates the academic merits of the student organization.

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APPENDIX A
Instrument

Research Study Analyzing DECA Participation and Academic Success

Purpose: The purpose of this study is to determine if participation in the marketing education student organization (DECA) contributes to the overall academic success of high school students.

Directions: Please complete ALL questions on the survey below as they pertain to you. It should require about 10 minutes to complete. Your participation is very much appreciated! *You will need the ID number that your advisor has provided you to submit the survey*, but no other personal identifying information will be required, as the survey is completely anonymous. Again, thank you for your participation.

ID Number:
(*required field)
Enter your ID number here.

I am a HS Graduate

I am a male

Which one category *best* describes your ethnicity?
White/Caucasion

What was your GPA at the beginning of the year when you first entered DECA? For example, if you joined during your sophomore year, you should enter your GPA at the end of your freshman/beginning of your sophomore year.
Enter GPA Here

What was your GPA at the end of your first year in DECA? For example, if you joined during your sophomore year, you should enter your GPA at the end of your sophomore/beginning of your junior year.
Enter GPA Here

What is your current GPA (if you are a senior), or what was your final high school GPA (if you are a high school graduate)?
Enter GPA Here

DEGREE OF PARTICIPATION IN DECA

In what ways were you involved in DECA *in 2007-2008* (or through your junior year if you are a high school graduate)?

For each of the following statements, please mark all the levels at which you participated in DECA last year (2007-2008). If you did not participate in this way, please select "Does Not Apply."	Local	District	State	Region	National	Does Not Apply
1. As an elected officer	○	○	○	○	○	◉
2. As a voting delegate	○	○	○	○	○	◉
3. As a committee leader (chair, secretary, etc.)	○	○	○	○	○	◉
4. As a non-competitive conference participant	○	○	○	○	○	◉
5. As a workshop participant (motivational speaker, resume building, etc.)	○	○	○	○	○	◉
6. As a competitor in a competitive event	○	○	○	○	○	◉
7. As a participant in a recognition program	○	○	○	○	○	◉
8. As a membership campaign leader	○	○	○	○	○	◉

In what ways are you (or will you be) involved in DECA *this year* (or in your senior year if you are a high school graduate)?

For each of the following statements, please mark all the levels at which you participated in DECA *this year*. If you did not (or will not) participate in this way, please select "Does Not Apply."	Local	District	State	Region	National	Does Not Apply
1. As an elected officer	○	○	○	○	○	◉
2. As a voting delegate	○	○	○	○	○	◉
3. As a committee leader (chair, secretary, etc.)	○	○	○	○	○	◉
4. As a non-competitive conference participant	○	○	○	○	○	◉
5. As a workshop participant (motivational speaker,	○	○	○	○	○	◉

resume building, etc.)

6. As a competitor in a competitive event	○	○	○	○	○	◉
7. As a participant in a recognition program	○	○	○	○	○	◉
8. As a membership campaign leader	○	○	○	○	○	◉

Extracurricular Activities

Please indicate your level of involvement in the following organizations/activities. Please fill in the bubble that best describes your highest level of participation for each organization or activity. If you do not participate in that specific organization or activity, please select "Does Not Apply."	Local	Region	State	National	Does Not Apply
1. Athletics (Club or Intramural)	○	○	○	○	◉
2. Boy Scouts or Girl Scouts	○	○	○	○	◉
3. Boys or Girls Clubs	○	○	○	○	◉
4. Church Youth Group	○	○	○	○	◉
5. 4-H Club	○	○	○	○	◉
6. Athletics (School Team)	○	○	○	○	◉
7. Band/Choir	○	○	○	○	◉
8. Class Officer	○	○	○	○	◉
9. Foreign Language Club	○	○	○	○	◉
10. Math/Science Club	○	○	○	○	◉
11. Military (e.g., Jr. ROTC)	○	○	○	○	◉
12. Drama	○	○	○	○	◉
13. Other (specify): Enter here if applicable	○	○	○	○	◉
14. Other (specify): Enter here if applicable	○	○	○	○	◉

☐ I have completed my survey.

Submit

Instrument Source: Alfeld, C., Stone, J., Aragon, S. R., Hansen, D. S., Zirkle, C., Connors, J., et al. (2007). Looking Inside the Black Box: The Valued Added by CTSOs to Students' High School Experience. *National Research Center for Career and Technical Education.* Retrieved from http://eric.ed.gov/ERICWebPortal/custom/portlets/recordDetails/detailmini.jsp?_nfpb=true&_&ERIC ExtSearch_SearchValue_0=ED497343&ERICExtSearch_SearchType_0=no&accno= ED497343

Please report any problems, concerns, or other feedback to:
Mickey Kosloski, mkoslosk@odu.edu
Old Dominion University
757.683.4305

APPENDIX B

Human Subjects Approval

OLD DOMINION UNIVERSITY
DARDEN COLLEGE OF EDUCATION
OFFICE OF THE DEAN
NORFOLK, VIRGINIA 23529-0156
PHONE: (757) 683-3938
FAX: (757) 683-5083

June 1, 2010 Proposal Number __200902161__

Professor Ritz:

Your proposal submission titled, **"Analysis of the Relationship between Participation in DECA, An Association of Marketing Students, and Overall Academic Success"** has been deemed EXEMPT from IRB review by the Human Subjects Review Committee of the Darden College of Education. If any changes occur, especially methodological, notify the Chair of the DCOE HSRC, and supply any required addenda requested of you by the Chair. You may begin your research.

We have approved your request to pursue this proposal indefinitely, provided no modifications occur. Also note that if you are funded externally for this project in the future, you will likely have to submit to the University IRB for their approval as well.

PRIOR TO THE START OF YOUR STUDY, **you must send a signed and dated *hardcopy* of your exemption application submission to the address below.** Thank you.

Edwin Gómez, Ph.D.
Associate Professor
Human Subjects Review Committee, DCOE
Human Movement Studies Department
Old Dominion University
2021 Student Recreation Center
Norfolk, VA 23529-0196
757-683-6309 (ph)
757-683-4270 (fx)

APPENDIX C

Instructions and Miscellaneous Correspondence

Dear State Advisors and Marketing Education Teachers Extraordinaire!

As a former state advisor, a current doctoral student, and long-time fan of DECA, I am instituting a study to determine if participation in DECA contributes to the overall academic success of high school students. However, I do need your help. As a result, there will be three $100 awards for participating teachers, and a $100 award to the state advisor that produces the greatest percentage of respondents. Details are below.

The study will include students that meet the following criteria:

- Third year DECA members who are a senior, or
- Graduates who participated in DECA at least two years

Brief synopsis:
Students' grade point averages will be identified before entering DECA, as well as at the completion of each of their first two years in DECA. (This should be as simple as having each student obtain a copy of their transcript.) Subsequently, identified students will also be asked to complete a *very brief* online survey that identifies their level of participation in DECA for their first two years. A relationship between level of student participation and GPA changes will be analyzed.

How you can help:

1. While students will remain anonymous, you (the advisors) cannot remain anonymous if you want to be eligible for one of three $100 awards. Therefore, your first step is to register yourself as an advisor participant. This can be done at any time by visiting http://www.lions2.odu.edu/org/deca/research.html.
2. Once you register, you will be sent (via e-mail) a formula to use to anonymously identify each student participant. Their names will never be given.
3. Identify your eligible students.
4. Have each eligible student obtain a copy of his/her transcript. S/he will not have to submit it, but will only need to enter his/her GPA on a simple, anonymous online form.
5. Have each eligible student complete a brief online survey attesting to his/her level of participation with DECA. #4 and #5 may be completed simultaneously.
6. Do not attempt to complete #4 or #5 at this point. You will be notified when the Web form is ready for entry. It will be later in the year.

Three advisors will be selected at random to win the cash awards. You will have one entry for every student that participates, so the more eligible students you enter, the greater the odds of winning. It is possible to win once, twice, or even three times, so submit those entries!

You truly do make a difference, and your assistance is greatly appreciated.

Mickey Kosloski, Senior Lecturer
Old Dominion University

APPENDIX D

Advisor Confirmation and Instructions

Dear NAME,

Thanks so much for agreeing to participate in this study! Your willingness to participate in this study will help us to determine whether or not there is a relationship between academics and DECA participation. It's appreciated!

You will receive an e-mail over the next couple of months with further instructions on how your students can participate in the study. What can you do for now? Currently you can have each student get a copy of his/her transcript from guidance. What they will need to know is:

- Their cumulative GPA before becoming a DECA member, their GPA at the end of their first year in DECA, and their GPA at the end of their second year in DECA. For example, if Johnny is a senior, and he became a DECA member at the onset of his sophomore year, then he will ultimately report his GPA at the end of his freshman (before DECA), sophomore (after one year in DECA), and junior (after two years in DECA) years. The rest is simple. Each student will report their GPAs, and will take a brief survey identifying their level of involvement. This should take each student less than 5 minutes.

The study will include students that meet the following criteria:

- Third year DECA members who are seniors, or
- Graduates who participated in DECA at least two years, and spent at least their freshman year as a non-member.

Results between level of student participation and GPA changes will be analyzed.

Please use this format to provide your students with a unique identifying number. Participants will NOT be asked to identify themselves in any other way, so using the proper number is critical. Below is a code for your school. Simply add an 001, 002, 003, etc., for each student participant.

School Code: _____

Three advisors will be selected at random to win the cash awards. You will receive one entry for every student that participates (identified as *your* student by the entry code above), so the more eligible students you enter, the greater the odds of winning. It is possible to win once, twice, or even all three times, so submit those entries!

You truly do make a difference, and your assistance is greatly appreciated.

Mickey Kosloski, Senior Lecturer
Old Dominion University

APPENDIX E

Final Instructions

Dear Advisor,

Thanks again for agreeing to participate in this study which will help to determine if there is a relationship between DECA participation and academic achievement. I'm confident that this will prove to be meaningful for all of us. If you would like a copy of the results, simply reply to this message and let me know. I'll be sure that you receive a copy.

The instructions are simple. Use the ID code that you were provided in your confirmation e-mail (5 letters and one number, such as ABCDE1), and add an 001, 002 etc. to the end of the code. For example, Billy would be ABCDE1001, Susan would be ABCDE1002, Dave would be ABCDE1003, and so on. Please do not identify your student in any other way. You may wish to make a quick chart for your own records to keep track which of your students have responded and which have not.

Your students should be able to complete the survey in less than 5 minutes. All they need is a copy of their transcript that shows their GPA before entering DECA, and their GPA at the onset of this year (or at graduation, if they are a high school graduate). Remember, eligible students are third year DECA members who are seniors, or graduates who participated in DECA for at least two years. The questions are relatively self-explanatory, and feel free to examine the form before your students do by clicking on the link below.

If you need me to resend your chapter code, or if you need any clarification, please let me know. I realize that it may be around exam time for some of you, and I am not going to put a deadline on when these need to be done. If you can approach it within the next couple of weeks it would be greatly appreciated. I will begin to follow up with you in about 3 weeks.

Although the report will not be finalized immediately, the winner of the $100 awards will be announced in the next few weeks as soon as the data is collected. I will send a message to ALL of you recognizing the winners. Remember, the winners will be selected at random. The more students you have who participate, the more chances you have of winning. I will know which advisor the student belongs to by the students' ID codes, so be sure that they type them in correctly! You are eligible to win more than once.

The survey instrument can be found at:
http://www.lions.odu.edu/org/deca/deca_research_data.html. Thank you again!!!

Mickey Kosloski, Senior Lecturer
Occupational and Technical Studies, Old Dominion University
757.683.4305
757.683.5227 (fax)

VITA

Senior Lecturer, STEM Education and Professional Studies, Old Dominion University

Appointed July, 2008

Academic Degrees

M.S. Old Dominion University	2001 Occupational and Technical Studies
B.S. Old Dominion University	1998 Marketing Education

Professional Experience

2008-Pres	Old Dominion University, Senior Lecturer, Occupational and Technical Studies
2007-2008	Old Dominion University, Instructor, Occupational and Technical Studies
2000-2007	Old Dominion University, Virginia DECA Specialist, Administrator/Assistant Instructor
1998-2000	Hickory High School, Chesapeake VA, marketing teacher

Publications

Kosloski, M. F. & Reed, P. A. (2010). Determining return on investment for professional development in pub education: A model. *The Online Journal for Workforce Education and Development 4*(4).

Kosloski, M. F. (2009). Tough Choices or Tough Times: The Report of the New Commission on the Skills of the American Workforce. *Iota Lambda Sigma Journal for Workforce Education, 1*(3), 12-15.

Kosloski, M., Davis, S., Machado, T., & Netherton, D. (2009). CottonEcology: An educational program for high school students and university students in textiles, fashion merchandising and related fields, *Iota Lambda Sigma Journal for Workforce Education, 2,* 36-44.

Kosloski, M. F. (2008). A study to determine what factors contribute to student success in DECA'S competitive events, *Iota Lambda Sigma Journal for Workforce Education, 1,* 19-24.

Presentations

"Projects and Problem-based Learning in Entrepreneurship." Consortium for Entrepreneurship Education, National Entrepreneurship Forum. Norfolk, VA, October, 2009.

"More than a Class: Program Philosophy Enhances Impact" Marketing Education Conclave, Portland, Oregon, June 2008

"Increasing Membership" (Panel Presentation) State Association Management Conference, Orlando, FL, August 2006

"Surviving Your First Year as a State Advisor" (Panel Presentation) State Association Management Conference, Orlando, FL, August 2006

Research

Kosloski, M. F., Davis, S, Netherton, D., Beal, Y., & Machado, T. (2010). *Fashion Teacher Academy: An Educational Program for High School Fashion Teachers and College Students Who Plan to Teach in High School Fashion Programs.* $30,000, Cotton, Inc. (unfunded)

Davis, S., Kosloski, M. F., Machado, T., & Netherton, D. (2009). *Cotton – Naturally.* $32,317, Cotton, Inc.

Technical Support to Career and Technical Education and Student Organizations and Technical Support Services, Principal Investigator, $169,623, Virginia Department of Education. June 2008-2009

Davis, S., Kosloski, M. F., Machado, T., & Netherton, D. (2008). *Cotton Ecology: An Education Program for High School and University Students in Textiles, Fashion Merchandising, and Related Fields, Instructional Designer*, $25,276, Cotton, Inc.

Technical Support to Career and Technical Education and Student Organizations and Technical Support Services, Co-Principal Investigator, $167,188, Virginia Department of Education. June 2007-2008

Honors and Awards

Darden College of Education Most Collaborative Grant Award 2008

VICA/Skills USA Outstanding Service Award 2008

National Scholar of the Year, Iota Lambda Sigma 2007

International DECA Outstanding Service Award, April 2007