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Nancy A. Johnston
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The Effect of the Involvement within Career Academies
by Elective Participation of Eleventh and Twelfth Grade High School Students

During the Implementation Year

By

Nancy A. Johnston

A Dissertation

Presented to the Faculty of
The Graduate College of the University of Nebraska
In Partial Fulfillment of Requirements of the Degree

Doctor of Education

Major: Educational Administration

Under the Supervision of

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2010

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ABSTRACT

THE EFFECT OF THE INVOLVEMENT WITHIN CAREER ACADEMIES
BY ELECTIVE PARTICIPATION
OF ELEVENTH AND TWELFTH GRADE HIGH SCHOOL STUDENTS
DURING THE IMPLEMENTATION YEAR

Nancy Ann Johnston

University of Nebraska, 2010

Advisor: Dr. Kay Keiser

The purpose of this study was to determine the effect of elective participation in one of three implementation year Career Academies, Education, Entrepreneurship, or Finance, on upper-class high school academic grades, Grade Point Average, and school academy participation measures. Significance of the junior and senior year of high school, the meaning of a high school diploma and graduation requirements, and the connection to preparation for postsecondary studies and the world of work, career readiness, have become a focus of high school improvement efforts throughout the country. The implementation of the Millard Public Schools Career Academies in August of 2009 was an answer in providing an additional opportunity for students interested in pursuing college credit within a specialized field of study as called for by two of the district Strategic Plan strategies including the utilization of instructional best practices, formative and summative assessments, and student data designed to ensure high achievement for all students and all demographic subgroups and the development of innovative approaches to motivate and educate those students who learn in non-traditional ways.

Participating students who completed both semesters ($N=33$) within the Education (Millard West), Entrepreneurship (Millard South), or Finance (Millard North) Academy during this implementation were included in this study. Students attended their home school for half of the day and their academy school for the other half of the day with some of the students remaining in their home school for their academy experience. For the purpose of this study, students were grouped into three academic levels based on district academic measures using the results from three of their high school Essential Learner Outcome (ELO) Assessments including math, reading, and analytical writing, all taken prior to their eleventh grade year. While all participating students had met the standard for these assessments, the academic levels served as the grouping basis for this study. Students met the goal of being a representative group from the district in that there were different levels of academic ability represented and each academy included students from the other high schools.

The results of this study supported that student success after the first year of the implementation of the career academies was experienced by students within all proficiency levels.

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CHAPTER ONE

Introduction

Background and Rationale

Are high schools currently serving the needs of today's students? As states and districts across the United States revisited current purposes and functions of our high schools, the need for true reform was evident. We found public high school education emerging with intense interest and discussion in the public forum. With more interest, high school and district administrators found the need to respond to a change in current practices that would provide an opportunity for all students to be better prepared to live and work in a global economy (Gordon, 2006). Conversations centered on the confidence in what a high school diploma signified began to emerge as educators across the country discussed what a diploma means without having students achieve a common standard. High schools need to prepare all students for life beyond graduation whether that is higher education, training, or directly to the workforce. All students must be ready for the future in which they are able to problem solve and think critically regardless of their next steps after high school graduation (Clarke, 2008; Conklin, Curran, & Gandal, 2005).

It is not uncommon that the senior year in high school has been viewed as less useful since most students have met their graduation requirements and have already decided whether they will attend college or not (Wedl, 1998). School districts continued to find ways for students to meet graduation requirements while better connecting them to their future endeavors. During a career program at Charles Hamilton High School in Chicago, students took each other's blood pressure as they practiced their medical skills.

They received both CPR and AED (automated external defibrillator) training and certification through the Chicago Area Health and Medical Careers Program. These are the types of experiences which encouraged students to receive further education. Within five years of finishing high school, 98% of the participants in this high school program received their baccalaureate degrees (Alternative Schools Network, 2007).

The need to create a more meaningful experience for high school students has been crucial in order to ensure that all students can be successful no matter which path a student may select, whether it is through career education or a college education. Preparing students during their high school years has become important in order for them to pursue and be successful in their post-secondary education options. College prep courses are no longer just meant for college anymore. Jobs once considered “blue collar” have more demanding and higher level skill needs (Barth, 2009; United States Department of Education, 2010).

Could having students determine Career Paths, which would be courses designed and met through a variety of Academies be an answer? Would having students graduate from high school with a better understanding of their future through internships, business partnerships, Advanced Placement[®] courses embedded within a defined program, college credit through dual enrollment opportunities, or a two-year certificate guaranteeing their level of experience be more appropriate and meaningful?

Would providing a more rigorous, direct approach while students work towards short and long term goals throughout their high school years assist in decreasing the dropout rates, which are again increasing? The staff at the Center for Labor Market Studies studied the Illinois Labor Market and found that the number of dropouts (a group

whose employment rate is dropping at dramatic rates) is about 186,000, which would be equal to the second largest city in the state of Illinois. Facts like these are alarming and reiterate the need for change in high school education (Sum, 2005). Whether students plan to go to college or the work place after high school graduation, they need the same rigorous curriculum because nearly all students will require some postsecondary education (American Diploma Project, 2004).

Research indicated the need for improved engagement of high school students through the implementation of more rigorous and relevant learning opportunities, especially during their last two years of high school, in order to be successful in their post-secondary endeavors (Conklin, et al. 2005). With the establishment of the career academies, the goals included improving rigor and relevance, which could occur by students selecting a potential career path and by providing college level coursework, which could assist with smoother transitions to college, university or work-study programs. In addition, the importance of establishing relationships through the career academies with teachers and community members would assist students in developing further experiences related to their selected fields of study, thus potentially having a positive impact on their success after high school.

Purpose of the Study

The purpose of this comparative efficacy study was to determine the effect of elective participation in one of three implementation year Career Academies, Education, Entrepreneurship, or Finance, on upper-class high school academic grades, Grade Point Average, and school academy participation measures.

Research Questions

The following research questions were drawn from knowledge gained through the literature review and through program evaluation design within the school district to guide this study:

Research Question #1: Are students participating in the career academies at all proficiency levels academically successful as measured by student Grade Point Average (GPA)?

Research Question #2: Is there a difference between student success within the three academic levels as measured by Grade Point Average (GPA) prior to participation in the academies and Grade Point Average (GPA) after participation in the academies?

Research Question #3: Is there a difference between student success within three academic levels as measured by Grade Point Average (GPA) within academy courses?

Research Question #4: Is there a difference between student success within three academic levels as measured by Grade Point Average (GPA) within non-academy courses?

Research Question #5: Is there a difference between student perceptions within the three academic levels as measured by the following selected survey items from the May, 2010 *Program Evaluation for Millard Career Academies*:

- While participating in the career academy during this semester, how much effort did you make to be successful in your courses?
- How much effort did you make to be successful in your other courses during this semester?

- How difficult were courses in the academy compared to the other courses you took during this semester?

Importance of the Study

This study contributes to research, practice, and policy. This study is of significant interest to the participating school district as a means of program evaluation for the implementation year of the first three Millard Career Academies: Education, Entrepreneurship, and Finance. In addition, it is of significant interest to other school districts interested in establishing career academies while providing college credit during the high school years.

Assumptions of the Study

This study has several strong features. Students within this study were the first to participate in one of three academy options offered by Millard Public Schools to high school students during the implementation school year, 2009-2010. All students in this study were upper classmen with the majority being eleventh grade students and completed both semesters during the first year of the academy program. All three of the traditional high schools within Millard Public Schools opened one career academy during the implementation year with Millard North High School hosting the Finance Academy, Millard South High School providing the Entrepreneurship Academy, and Millard West High School offering the Education Academy. During the first year of implementation, all students participated in courses within their home high school during the morning and moved to their academy assignments for afternoon courses.

All career academies had highly qualified staff members who were passionate about this additional opportunity for high school students, had implemented lessons using

best instructional practices, had appropriate resources available to them and their students, and curriculum focused on the area of study within their academy. The teachers within the career academies had building administrative leadership available to them as well as the district Coordinator of Career and Technical Education and the Director of Secondary Education as support.

All career academies had courses within the academy structure which allowed students to earn college credit through Metropolitan Community College and the University of Nebraska at Omaha. For the purpose of this study, all study students were academically categorized according to the same grouping criteria using district results from the Essential Learner Outcome (ELO) Assessments including Ninth Grade Reading, Tenth Grade Analytical Writing, and Tenth Grade Math. The cutscores for these assessments were determined by a group of 20-25 teachers from within the district who were familiar with the students and content curriculum as they participated within a rigorous standard setting session guided by testing experts from the Buros Mental Measurement Institute at the University of Nebraska and Alpine Testing Solutions (Millard Public Schools, 2008). While Millard students must demonstrate proficiency on the Essential Learner Outcome (ELO) Assessments, the performance on these assessments are measured as beyond proficient, proficient, barely proficient, and below proficient. For the purpose of this study, the proficiency levels were used as grouping criteria to determine if students fell within the above average, average, or below academic levels.

Delimitations of the Study

The study was delimited to the implementation year of three career academies each within one of three traditional high schools within an affluent, high achieving suburban school district. The true student benefit of participation within the career academies rest with the intent of a well articulated two-year program including the capability of earning 40 credits towards high school graduation, completing an internship (second year) and having the ability to earn dual enrollment credit at Metropolitan Community College and the University of Nebraska at Omaha. The findings of this study were delimited to student participation during the first year of academy participation; therefore, responses to the post *Program Evaluation for Millard Career Academies* survey results after one year participation compared to the second year post *Program Evaluation for the Millard Career Academies* may be impacted.

Limitations of the Study

While all of the high schools involved in the study are part of a district system, each has their own unique culture built on traditions enriched over the years. Each high school was able to provide input into the academy that would best fit its culture and traditions. With close proximity of the West Dodge financial institutions and businesses, Millard North was the best candidate for the Finance Academy. A strong, nationally recognized marketing program led to a connection of the Entrepreneurship Academy with Millard South High School. The Education Academy at Millard West aligns with its tradition of a solid instructional and staff development culture, strong teacher and administrator involvement with Phi Delta Kappa, as well as hosting one of the most successful Future Educator's Association student groups. While each of these academies

fit well within the buildings, students were only able to select one career academy. For some students, that meant attending classes at their home school during the morning and moving to their academy high school campus for the afternoon. For some students, the academy they selected was within their home school; therefore, they did not need to relocate to a different campus for their experience. Also, this comparative efficacy study is limited to students who elected to participate in the career academy opportunity during the implementation year and who continued through the end of the second semester. Using the results of a small study group, some of whom remain in their home school and some who travel to another district high school, for participation in a career academy during the implementation year may limit interpretation of the study results and further reduce the utility and generalizability of the findings.

Definition of Terms

Academic intensity. Academic intensity is another term for rigorous curriculum in reference to concentration of intellectual effort within the academic course content a student completes in high school (Adelman, 2006).

Advanced Placement[®] Program. The College Board Advanced Placement Program[®] enables students to pursue college level courses while in high school. Millard Public Schools currently offers twenty-two courses. Based on student performance on the Advanced Placement[®] exams, students can earn credit, advanced placement, or both for college (Millard Public Schools High School Curriculum Handbook and Registration Guide 2010-2011, 2009).

Career Academy. As defined in Millard Public Schools, the Career Academies provide a unique opportunity to explore a career field and prepare for college or a career

while students complete their eleventh and twelfth grade years of high school by earning 40 credits per year toward high school graduation. At the same time, students are able to earn dual enrollment credit with Metropolitan Community College and University of Nebraska at Omaha, participate in internship opportunities, and learn from curriculum content centered on the focus of each academy.

Education Career Academy. Offered at Millard West High School, students explore careers in the education field which can lead to teaching and corporate training. By successfully completing two years through the Education Career Academy, students will complete their entrance requirements for the University of Nebraska at Omaha College of Education having the opportunity to earn 27 credits and an additional three through achieving an acceptable score on the Advanced Placement[®] Psychology exam (Millard Public Schools: You are Invited to Join a Career Academy, 2009).

Entrepreneurship Academy. Offered at Millard South High School, students have the opportunity to explore their own business and complete an internship with successful businesses while building a professional network. Students completing both years in the Entrepreneurship Academy have the opportunity to earn 30 credits and an additional six credits through achieving an acceptable score on the Advanced Placement[®] Microeconomics and Macroeconomics exams (Millard Public Schools: You are Invited to Join a Career Academy, 2009).

Finance Career Academy. Offered at Millard North High School, students learn the risk of various financial investments, how to analyze financial data, and how to invest and manage money while completing an internship with a successful business in the Omaha area. Students completing both years in the Finance Academy

have the opportunity to earn 27 credits and an additional six credits through achieving an acceptable score on the Advanced Placement[®] Microeconomics and Macroeconomics exams (Millard Public Schools: You are Invited to Join a Career Academy, 2009).

Carnegie Units. Based on an agreement among states, institutions, and K-12 systems in reference to the number of hours a student has studied a subject/course within the United States and generally recognized as representing 120 hours in a specific course over a full year (36-40 weeks) meeting four or five times a week for 40-50 minutes per session. Students in grades 9-12 accumulate a number of course credits (Carnegie Units) by passing the courses as they progress through high school and graduate (Martinez & Bray, 2002).

Differentiated instruction. A systematic approach to planning curriculum and instruction for academically diverse learners while honoring each student's learning needs and maximizing each student's learning capacity is the concept of differentiated instruction (Tomlinson & Eidson, 2003).

Dual Enrollment Programs. Dual Enrollment Programs enable students to take college courses for credit while attending high school as a result of a collaborative partnership between the secondary institutions and community colleges, colleges, and/or universities (Karp, Calcagno, Hughes, Jeong, & Bailey, 2007; Martinez & Bray, 2002). In Millard Public Schools, Dual Enrollment courses are taught within the high schools by teachers approved through Metropolitan Community College and/or University of Nebraska at Omaha by Board approved agreements.

Essential Learner Outcome (ELO) Assessments. Essential Learner Outcome (ELO) Assessments were developed to ensure students are ready to transition from one

level to the next, producing competent and qualified students who are able to succeed after leaving Millard Public Schools. The assessments are given to students in grades kindergarten through twelfth grades in Reading, Writing, Mathematics, Science, and Social Studies (Millard Public Schools Assessment Program, 2008).

Grade Point Average. A student's Grade Point Average (GPA) is the average on a scale of 4.0 of the grades received by a student during a specific grading period throughout the school year and builds upon each term throughout the high school years. In Millard Public Schools a student's grade point average is calculated by the total grade points achieved, standard and weighted, by the total course credits attempted. (Millard Public Schools High School Curriculum Handbook and Registration Guide 2010-2011, 2009).

Proficiency rating. Achievement of mastery or proficiency of an Essential Learner Outcome (ELO) Assessment in Millard Public Schools is noted by a cutscore in the distribution of student scores. The cutscores are set through a rigorous standard setting process involving the judgment of 20-25 teachers within the standard setting workshop. Psychometrically accepted, standard methods are used for setting the cutscores on district assessments. The process is guided by experts from the Buros Mental Measurement Institute at the University of Nebraska and Alpine Testing Solutions (Millard Public Schools Assessment Program, 2008; Millard Public Schools Board of Education Rule 6315.1).

Barely proficient rating. Students with a barely proficient rating score fall within a range of scores just above the lowest cutscore on a multi-level proficiency

scale. Students scoring in this range appear to have below average academic ability related to the assessment area: writing, reading, mathematics, science, or social studies.

Below proficient rating. Students with a below proficient rating score fall within a range of scores below the lowest cutscore on a multi-level proficiency scale. Students scoring in this range appear to have below or significantly below average academic ability related to the assessment area: writing, reading, mathematics, science, or social studies.

Beyond proficient rating. Students with a beyond proficient rating score fall within a range of scores above the highest cutscore on a multi-level proficiency scale. Students scoring in this range appear to have above average academic ability related to the assessment area: writing, reading, mathematics, science, or social studies.

Proficient rating. Students with a proficient rating score fall within a range of scores at or above the mid-range cutscore on a multi-level proficiency scale. Students scoring in this range appear to have average academic ability, or proficient ability, related to the assessment area: writing, reading, mathematics, science, or social studies.

Significance of the Study

This study has the potential to contribute to research, practice, and policy. It is of significant interest to the participating school district as a means of program evaluation for the implementation year of the first three Millard Career Academies: Education, Entrepreneurship, and Finance. By reviewing results from this study the district can determine adjustments needed in Year Two implementation for these existing career academies as well as with the Year One implementation of the next three academies at

Millard Horizon High School including the Culinary Skills Academy, Health Sciences Academy, and the Transportation, Distribution, Logistics Academy. In addition, this study is of significant interest to other school districts interested in establishing career academies while providing the rigor of earning college credit during the high school years within relevant career academy opportunities.

Organization of the Study

The literature review relevant to this research study was presented within Chapter 2. The chapter reviews literature regarding current high school practices, high school student motivation and engagement, course rigor and relevance, importance of relationships, and the need for reform within traditional high school settings. Chapter 3 described the research design, methodology, independent variables, dependent variables, and procedures used to gather and analyze the data, including the number of participants, gender, age range, racial and ethnic origins, dependent variables, dependent measures, and the data analysis. Chapter 4 reported the research results and Chapter 5 provided the conclusions and a discussion of the research findings.

CHAPTER TWO

Review of Literature

History and Background

What attracts some students to be motivated throughout their high school career as they seek the most rigorous courses and work to their highest potential while others are disengaged and do not benefit from opportunities that would assist them in a successful path towards their future beyond high school? Understanding what motivates and engages some students may assist school districts in determining how to structure future practices in order to better prepare students, whether they choose to pursue a continued academic path through community college or at the university level or as they begin careers as members of the work force. Nearly all students will require some form of post-secondary education or training beyond high school (The American Diploma Project, 2004). Statistics across the nation are showing decreasing levels of achievement, declining performance on standardized tests, increasing drop-out rates, growing achievement gaps, and high school students beginning college less prepared for success (Illinois State Board of Education, 2006; Turner & Prothero, 2005).

The Core Principles needed to transform high school for all youths include: Personalized Learning Environments; Empowered Educators; Accountable Leaders; Engaged Community and Youth; Integrated System of High Standards, Curriculum, Instruction, Assessments, and Support; and Academic Engagement of All Students. By focusing on these Core Principles, all youth would be ready for college, careers, and active civic participation (National High School Alliance, 2005).

The Nebraska State Board of Education held an Omaha Forum in March of 2004, which was facilitated by Doug Christensen, Commissioner of Education, focused on the High School experience throughout the state. In the form of questions, key topics from the table discussions included: What should a high school diploma mean? How do school districts make the high school experience more meaningful and engaging? How do institutions assist with transition to college or the work place? How do schools provide flexibility in scheduling and experiences? All of these questions and notes focus on the need to change high school education within the state of Nebraska (Nebraska State Board of Education, 2004).

The junior and senior years of high school need to be reorganized as “capstone” experiences so that students have the opportunity to integrate prior knowledge gained through coursework from previous years while demonstrating mastery of the curriculum while studying in-depth and challenging materials. Connections to college level coursework and internships can help students demonstrate their knowledge (Christensen, 2003).

The need for reform has been noted within the Omaha Metropolitan Area, where a task force was formed. Building Bright Futures released a Combined Summary Report detailing the opinions of more than 600 Omaha area residents. The opinions were obtained during four Town Hall Community meetings held in December 2007 and January 2009. One of the major issues expressed across economic, ethnic, and geographic lines within the community included the need to develop early career awareness and education programs which motivate students (Building Bright Futures, 2008).

Through the review of articles, research, and current literature surrounding current high school practices, three common themes seem to emerge when looking at what needs to be in place in order for all students to be successful towards transition to post-secondary education or to the world of work: relevance, rigorous curriculum, and relationships.

Relevance

In today's world, any job requires skills and training beyond high school (Posny, 2004). No matter which direction a student chooses once leaving the public education arena, he or she needs to have experienced challenging opportunities to successfully transition to careers or college. We live in a competitive, global, and interdependent world where we need to assist our students through inspiring, engaging, and real life opportunities while mentoring them so they are able to become successful, contributing citizens (Partnership for 21st Century Skills, 2007).

Providing a more flexible schedule, such as Twilight Schools, for high school students needing to work during the school day while still offering the same rigorous opportunities in the evening, could assist in filling one void (Posny, 2004). Offering opportunities when students have weaknesses in core academic areas where they could receive additional support within a school year could provide background knowledge needed for students to then meet the more rigorous expectations and standards needed for the college preparatory courses.

Providing courses which are more relevant while providing varied opportunities assists students in making connections to possible career choices beyond high school. An example is at Charles Hamilton Houston High School in Chicago where students have

received CPR and AED training and certification through the Chicago Area Health and Medical Careers Program. The CAHMCP Program was implemented in the state of Illinois over 25 years ago with the goal of increasing the number of quality minority students in medical and other health professions. Within five years of high school, 98% of the students who participated in the program while at Charles Hamilton Houston High School received their baccalaureate degrees (Alternative Schools Network, 2007). In addition, some high schools provide seniors the opportunity to participate in special projects as capstone activities to add relevance and provide a connection between high school and post-high school experiences (Turner & Prothero, 2005).

Incorporating college courses and work experiences within high school better prepares students with successful transition to the work place or college. Researching programs or methods which would attract students at risk and implementing the basic foundations of those programs or methods would provide high standards and expectations for all students. One such program is called *Diploma Plus*, through Commonwealth Corporation, in Massachusetts. As part of the Diploma Plus program, graduation is determined by proficiency, not by seat time, through engaging curriculum which is student centered and designed around key competencies (Posny, 2004). College level coursework and internships provide students the opportunity to apply strategies learned through the curriculum. Dual enrollment courses can save time for motivated students who are able to take college level courses during their junior and senior years of high school, thus enabling them to be able to advance more quickly into their higher level college courses (Martinez & Bray, 2002). Dual enrollment programs were once limited to high achieving students, but are increasingly attracting average-achieving students as a

way to prepare students for postsecondary education. In addition, more dual enrollment courses are being offered through career and technical education programs as a way to increase opportunities and engagement for students, particularly in their last two years of high school (Karp, et al. 2007).

At New Trier High School in Winnetka, Illinois, seniors have the opportunity to participate in a senior project where they are expected to further develop independence, self-advocacy, and problem solving skills, and an internal focus of control as they partner with community members during the last five weeks of the school year. Projects are voluntary and can center on service, career, creative or academic focus. Seniors work with a staff member who serves as a mentor and a community sponsor who will supervise at their project site. The culminating activity includes a self-evaluation and formal presentation during a school-wide exhibition (Dreis & Rehage, 2008).

Increasing opportunity to learn through alternative choices can motivate students who might not have viewed themselves as capable of successful coursework beyond their high school years. Schools within a school, magnet schools, and academy programs are examples of alternative school settings (Martinez & Bray, 2002). Helping students find their area of interest and providing the opportunity within high school to work towards that interest through a defined diploma path is one of the reasons for implementing an academy model in Millard Public Schools. High schools need to be more than a culminating event but a more effective bridge to the work force or to postsecondary institutions (Martinez & Bray, 2002).

Rigorous Curriculum

Two essential ingredients needed for school improvement include personalization and a rigorous curriculum within a supportive environment (NASSP, 2004). Students need to be encouraged to take more challenging courses through designed pathways which can be outlined through individualized Personal Learning Plans. Each student could meet on a regular basis with a trained, dedicated advisor to review the plan and further develop the pathway while setting short and long term goals towards high school graduation and beyond. Fostering academic engagement through the building of networks of adults who assist students by providing resources, guidance, and information needed to make decisions about future coursework, post-secondary opportunities, and career pathways can help students select a more rigorous approach throughout high school (Institute of Educational Leadership, Inc., 2005).

Providing support for students through differentiated instruction can assist all students in reaching more rigorous academic goals. In order for students to be able to learn as much as possible through their coursework, teachers need to differentiate five elements including: content, process, products, affect, and the learning environment. Besides the elements, teachers can respond to three student characteristics when determining needed instruction including readiness, interest, and student learning profile by providing a range of instructional and management strategies (Tomlinson, 1999; Tomlinson & Eidson, 2003).

Rigor needs to not only be considered when designing curriculum for college preparatory coursework, but also infusing rigor within all curriculum areas, including workforce and vocational courses (Turner & Prothero, 2005). Curriculum once thought

to be for college preparatory purposes, now serves all students regardless of their future beyond high school (Barth, 2009). Career and Technical Education includes many forms such as career academies, technology preparation programs, small learning communities, and small schools, which are considered a needed complement to rigorous courses (Clarke, 2008).

Providing high school students with courses that assist in building academic rigor through curriculum content is essential. Students who completed the following between grades 9 and 12 were more likely to be successful in earning a Bachelor's Degree in a minimal length of time:

3.75 or more Carnegie units of English;

3.75 or more Carnegie units of mathematics with the highest mathematics of either calculus, precalculus, or trigonometry;

2.5 or more Carnegie units of science or more than 2.0 Carnegie units of core laboratory science (biology, chemistry, and physics);

more than 2.0 Carnegie units of foreign languages;

more than 2.0 Carnegie units of history and social studies;

more than one Advanced Placement[®] Course; and

no remedial English; no remedial mathematics (Adelman, 2006, p. 27)

Of the students who completed twelfth grade in 1992 as studied by the United States Department of Education, 95% of the students who reached the level of academics noted above, earned bachelor's degrees and 41% earned master's, doctoral, or first professional (Adelman, 2006).

What about those students who begin their senior year at or close to having the needed courses required for graduation? It is not uncommon to hear students, their parents, and their teachers suggest that much of the senior year is not useful in the current high school structure because their graduation requirements have been met and the students know where they plan to attend college (Wedl, 1998). Working with guidance counselors, teachers, students, and parents as they move to an understanding that all students should be required to enroll in at least one Advanced Placement[®] course while they are in high school, whether they plan to attend a two or four year institution is important in order for students to learn of their highest potential. Often Advanced Placement[®] courses enable students to earn dual enrollment credit at the college and university level, thus allowing students the ability to graduate from high school with credits already earned. Advanced Placement[®] courses began in 1955 under direction of the College Board. Advanced Placement[®] courses are recognized in every state and the number of courses being taken by students continues to expand as documented by the number of students taking Advanced Placement[®] exams more than doubled from 330,080 in 1990 to 768,586 in 2000 (Martinez & Bray, 2002). Yet, while some students have the opportunity to take many Advanced Placement[®] courses during their high school years, some high schools do not offer any Advanced Placement[®] courses. Students who successfully complete Advanced Placement[®] courses and exams in high school are more likely to succeed in college and often perform better than students who do not take Advanced Placement[®] courses (Adelman, 2006; Martinez & Bray, 2002; College Board, 2009; Wakelyn, 2009).

Determining how to equip students with the required core academic knowledge and also 21st century skills needs to be a focus when determining the needed changes to provide a more rigorous high school environment (Clarke, 2008). There are many challenges facing high school students. While working with two and four year post secondary faculty and managers of high skill corporations it has been found that the preparation students receive during high school is the greatest predictor of bachelor's degree attainment, more so than family income or race. The intensity of the academic curriculum is still the most accurate indicator of precollege history in providing the momentum towards completion of a bachelor's degree. Most employers state high school graduates are lacking in grammar, spelling, writing, and basic math (Adelman, 2006; The American Diploma Project, 2004). Sequencing general education requirements so that required course work can be completed during the first two and half years while the last year and a half students take courses linked to postsecondary courses can assist in building connections and relationships needed in order for students to successfully transition to postsecondary institutions. Increasing access to college level courses in high school through dual enrollment and other accelerated courses while providing college preparation strategies and models will assist all students in understanding they are capable of attending college and can be the encouragement needed for first generation college students (United States Department of Education, 2010).

High school graduates think getting accepted into a college is daunting, but found that it is more difficult to be prepared academically for college level coursework and that about half of the college students in the United States require remediation (Callen &

Kirst, 2008). Assisting students in developing critical skills and being able to apply those skills through dual enrollment opportunities and internships could better help them be successful in the work place (Posny, 2004).

Dual enrollment opportunities are also often available to high school students. Dual enrollment is now seen as a means to increase high school rigor because it enables students to take college courses prior to graduating from high school. Dual enrollment was found to be an indicator of earning a high school diploma, more likely to enroll in college and continue, and dual enrollment students' grade point averages after two years of college were significantly higher than students who did not participate in dual enrollment programs. Participation in dual enrollment programs, especially when offered in a sequence, can benefit a range of students (Karp, et al. 2007).

At best, all students should be encouraged or graduation requirements revisited in order to ensure all students have the opportunity to be successful in postsecondary work.

Relationships

When revisiting existing practices within the current high school structure, it is imperative to honor the importance of relationships between students and staff. When students and adults are asked about their high school experiences, they often cite the positive connection made with a specific teacher. Research supports the importance of relationships as a key factor in improved student engagement (Turner & Prothero, 2005). There is a need for all staff to assist all students in staying focused. The work cannot be carried by one person, but instead by all involved with each student. Everyone has to have high expectations for every child (Gewertz, 2009).

As schools look forward to truly “leaving no child left behind” then we need to look at what schools are doing to build on students’ individuality and how well equipped they are to lead a happy, productive life. In a study done by Gallup in 2005, students aged 13 to 17 were asked to think of a class in which they felt they learned the most during the previous semester. Of the students, 53% shared that the teacher was the reason. When asked why, the responses fell into two categories: first, 27% students shared that they liked the teacher, the teacher cared, and the teacher respected students. Secondly, the other 26% shared that it was because of the teacher’s style, which made it fun to learn. The researchers also asked what set the teacher apart from the others when thinking of the class they learned the most from during their school years, 41% offered a variety of responses regarding the relationships the teacher had with students (Gordon, 2006).

Students need to feel that they belong. Belonging to a group who share a common goal and focus can assist students in being successful. Students need to feel affirmed, valued and challenged so they feel they can be successful in courses where rigor and high expectations are the norm (Tomlinson & Eidson, 2003). Knowing and understanding the student as a learner is essential in developing relationships, which impacts socially appropriate behaviors within classrooms, thus allowing a positive learning environment where students are engaged and productive. Teachers who are able to engage students in lessons build upon rigorous curriculum drawn to student’s personal interests are more likely to build relationships which enable students to be successful in their academic studies (Beaty-O’Ferrall, Green, & Hanna, 2010).

Providing opportunities where students can build relationships while engaged in problem-based learning increases motivation and self-efficacy in college preparation, especially among first-generation college students. The learning environment and a student's perception influence one another (Vazquez, 2008). Providing options such as dual enrollment and internships which are connected to real-world experiences will assist students in engagement as they finish their high school years (Black, 2010). Creating an Advanced Placement[®] culture where all students feel comfortable in that they will not be socially isolated by participating in Advanced Placement[®] courses is another important strategy to have in place in order to open the door for all students to be better prepared for postsecondary choices (Wakelyn, 2009). Through career academies, students will build upon prior learning in an environment where they are able to strengthen their knowledge through relevant and engaging activities and studies while connecting those events to defined rigorous curriculum, thus strengthening their self-efficacy.

Think of your own conversations with others and your own high school experiences, if asked what one remembers most about a class, the response is often related to a particular teacher and reflects the relationship the teacher had with students, whether positive or negative. If we want to look at high school differently, we need to consider the development of teachers and learn from those who easily relate with their students in order to help create a culture where high school students feel welcome and accepted for who they are.

Implications of Literature Research

A high school diploma alone will not be a path to a stable job or relative economic stability. All students must be prepared to enter a society that challenges them to innovate, problem solve, and think critically; where they will be required to apply what they have learned in the classroom to complex situations; and where lifelong learning is necessary for lifelong employability (Clarke, 2008, p. 1).

Reorganizing high schools so that students are able to work on required core courses towards graduation during their first two years of high school and then being able to further explore and transition within defined Academies is what Millard Public Schools pursued in an effort to better address the needs of high school students. As part of an on-going school improvement process, Millard Public Schools uses a Strategic Planning process utilizing the Cambridge Strategic Planning Model. The district strategic plan is created by teams of community members, parents, high school students, teachers, and administrator representatives. Through this process, two strategies relative to improving the high school experience included:

We will develop and implement plans to ensure students make successful transition into the District and from level to level, preschool to post-secondary (Millard Public Schools Strategic Plan, 2004 & 2009).

We will develop innovative approaches to motivate and educate those students who learn in non-traditional ways (Millard Public Schools Strategic Plan, 2004 & 2009).

As a result of the implementation of these strategies, beginning explorations towards implementing career academies within Millard included the following possibilities: education; business finance and insurance; business management and entrepreneurship; Transportation, Distribution, Warehouse, and Logistics (TDWL); Culinary Arts; Health Occupations; and Law and Public Safety. It was determined that students would continue to meet their core requirements within their home high schools and then travel for part of the school day to the high school housing their academy of choice. The areas of study for the academies were selected based on student interest, need within the community as determined through a review of regional employment trends, and availability of local community connections through business and educational institutions. Efforts working with the University of Nebraska at Omaha and Metropolitan Community College in order to bridge possibilities so that students would receive college credit while completing their coursework within the academies and through internships were established.

The National Governors Association (2005) determined ten steps which are needed as high schools are redesigned with an emphasis on system-wide reform. Key areas include:

- defining a rigorous college and work preparatory curriculum towards high school graduation
- challenging all community groups to support initiatives that improve college awareness
- requiring college and work readiness assessments to be completed in high school

- assisting students through financial incentives for disadvantaged
- expanding college level opportunities for all students
- developing pathways to industry certification

Within the Framework for 21st Century Learning (Partnership for 21st Century Skills, 2009) there is a call for 21st Century student outcomes and support systems to bring together rigorous content and real world relevance, while focusing on cognitive, affective, and aesthetic domains while being attentive to the needs of individual students and society as a whole. Modern life requires students to be able to apply what they have learned during their courses to their work place, home, and in their communities.

The United States is losing its educational edge in that as recently as 1995, America was first in postsecondary graduation rates, but by 2006, America dropped to fourteenth with it also being the year with the second highest college dropout rate of 27 countries (National Governors Association, 2008). No matter which direction a student decides to go after graduation from high school, whether planning to attend college, earn a two-year degree, participate in some form of postsecondary training, or enter the work force, students need to have appropriate preparation and opportunities during their high school years (Conklin, et al., 2005).

High school grades and Advanced Placement[®] exam scores, which match the curriculum of college level courses, are the single best indicator of success in college (Clark, 2010). We need to continue to find ways for all students to be engaged and motivated throughout their high school career in order for them to best be prepared to enter the work force during the twenty-first century whether that path is through a postsecondary institution or directly into the workplace. Being able to provide more

students a vehicle to participate in Advanced Placement[®] courses and dual enrollment courses through academies focused upon an area of interest, taught by dedicated, engaging educators will assist students in being more successful in college and, eventually, the workplace.

CHAPTER THREE

Methodology

The purpose of this comparative efficacy study was to determine the effect of elective participation in one of three implementation year Career Academies, Education, Entrepreneurship, or Finance, on upper-class high school academic grades, Grade Point Average, and school academy participation measures.

Research Design

This comparative efficacy study used a three group pretest-posttest study design of students participating in the three career academies as identified within academic levels during the implementation year, which was completed in June of 2010.

Research Questions

The following research questions were drawn from knowledge gained through the literature review and through program evaluation design within the school district to guide this study:

Research Question #1: Are students participating in the career academies at all proficiency levels academically successful as measured by student Grade Point Average (GPA)?

Research Question #2: Is there a difference between student success within the three academic levels as measured by Grade Point Average (GPA) prior to participation in the academies and Grade Point Average (GPA) after participation in the academies?

Research Question #3: Is there a difference between student success within three academic levels as measured by Grade Point Average (GPA) within academy courses?

Research Question #4: Is there a difference between student success within three academic levels as measured by Grade Point Average (GPA) within non-academy courses?

Research Question #5: Is there a difference between student perceptions within the three academic levels as measured by survey items from the *Program Evaluation for Millard Career Academies*:

- While participating in the career academy during this semester, how much effort did you make to be successful in your courses?
- How much effort did you make to be successful in your other courses during this semester?
- How difficult were courses in the academy compared to the other courses you took during this semester?

Subjects

Students participating in this study were enrolled in one of three career academies in an Omaha area suburban school district during the 2009-2010 school year, the first year of implementation of the career academies. Each of the students participated in one of the academies housed at one of three traditional high schools within the school district. The three career academies included the Education Academy, Entrepreneurship Academy, and Finance Academy.

Number of subjects. Participating junior and senior students (46) applied to be accepted into the career academies. Of the 46 students, 42 were in eleventh grade and four were in twelfth grade and all were accepted into the program. In order to be included in the data analysis for this study, students needed to complete both semesters

during this implementation year, which resulted in ($N = 33$), which included 30 students in eleventh grade and three in twelfth grade.

Gender of subjects. Total academy participants for the year included 52% female ($n = 17$), and 48% male ($n = 16$). Of the participants in the Education Academy 73% were female ($n = 11$), and 27% were male ($n = 4$). Participants in the Entrepreneurship Academy were 40% female ($n = 4$), and 60% male ($n = 6$). Of the participants in the Finance Academy 25% were female ($n = 2$), and 75% male ($n = 6$).

Age range of subjects. All students in the study were from ages fifteen to eighteen at the start of the 2009-2010 school year.

Racial and ethnic origin of subjects. Ethnicity among academy participants was slightly more diverse than the general district high school population. Of the total participants completing both semesters ($N = 33$), 9% ($n = 3$) were Asian or Pacific Islander compared to a 3% district average, 3% ($n = 1$) were Black, 3% ($n = 1$) were Hispanic, which is slightly less the district average (4% each), and 85% were White, not Hispanic ($n = 28$) while the district average was 90%.

Method of subject identification. During the implementation year, each of the academies could have had a capacity of 24 each section, morning or afternoon. Only current sophomores and juniors during the 2008-2009 school year were able to apply. All applicants were interviewed and accepted. Seventeen students were accepted into the Education Academy with 15 completing Year One. Fourteen students were accepted into the Entrepreneurship Academy (one student accepted into the Entrepreneurship Academy had been expelled prior to the start of the academy and three others dropped or moved

prior to the end of second semester), and 16 students were accepted into the Finance Academy with eight completing both semesters.

Of the students included in the study, the 15 students in Education Academy, included 11 current students at Millard West High School, where the Education Academy was located, while one was from Millard South High School and three were from Millard North High School. Of the 10 students completing the first year in the Entrepreneurship Academy, four students were current students at Millard South High School, where the Entrepreneurship Academy was located, while four were from Millard North High School and two were from Millard West High School. Eight students completed the first year of the Finance Academy, housed at Millard North High School, where four of these students currently attended while three were from Millard South High School and one was from Millard West High School. No students were identified by name and no information was released beyond the scope of this study.

Data Collection Procedures

Students were grouped into three academic levels based on results on three of their high school Essential Learner Outcome (ELO) Assessments. As part of the Millard Public School Graduation Requirement, high school students must successfully meet the standard for each of the ELO Assessments in math, reading, social studies, science, and analytical writing. The Reading ELO Assessment was taken in ninth grade while the Analytical Writing ELO Assessment and Math ELO Assessment were taken during the tenth grade year. The science and social studies Essential Learner Outcome (ELO) Assessments were given to students during their junior year of high school; therefore,

those assessment results were not being used within this study. All of the academy students had met the Reading, Analytical Writing, and Math ELO Assessment standards.

While students must meet the standard for each assessment, the district assessments are measured as beyond proficient, proficient, barely proficient, and below proficient. For the purpose of this study, student proficiency results were used to group the students into one of three academic levels: Above Average, Average, and Below Average. Based on the three ELO Assessments, the Above Average criteria included: three results at Beyond Proficient or two at Beyond Proficient and one at Proficient. The Average criteria included: one at Beyond Proficient and two at Proficient or three at Proficient or two at Proficient and one at Barely Proficient or one of each proficiency level. The Below Proficient included: one at Proficient and two at Barely Proficient or three at Barely Proficient or any Below Proficient levels. The Above Average group contained nine students, the Average group contained 20, and the Below Average group contained four.

Description of Procedures

This study analyzed data from students Grade Point Average prior to participation in the Academies, Grade Point Average after participation in the Academies, and post *Program Evaluation for Millard Career Academies* survey results to determine if involvement in the academy implementation year showed a difference between students within academic levels.

Student success outside of academy courses were also analyzed by comparing course grades for courses within the academy (50% of the school day) and those outside the academy (the other 50% of the school day).

The three group comparative efficacy research study utilized students participating in the three career academies as identified within academic levels during the implementation year, which was completed in June of 2010. All student achievement measures were collected upon availability of specified data, which is routinely collected school information. Permission from the appropriate school research personnel was received.

The research was conducted in the three noted high school settings. The study procedures did not interfere in any way with the normal educational practices and did not involve coercion or discomfort of any kind. Data was stored on secure databases and served for statistical analysis in the office of the primary researcher and the dissertation chair. No individual identifiers were attached to the data.

Data Analysis

Variables. Students within the study participated in one of three career academies: Education, Entrepreneurship, and Finance. Students were placed within three academic levels identified as Above Average, Average, and Below Average based on prior success as measured on their high school Essential Learner Outcome Assessments (ELO Assessments) in the areas of Reading, Analytical Writing, and Math for the purpose of this comparative study.

Dependent Measures. Two dependent variables were evaluated for this study. Student Grade Point Average (GPA) prior to participation in the academies and Grade Point Average (GPA) after participation in the academies were reviewed. Student success within the three academic levels as measured by analysis of student responses on the post engagement survey was also analyzed.

Analysis. Data was analyzed using one-way analyses of variance (ANOVA). ANOVA is a hypothesis-testing procedure used to determine whether a significant difference exists between two or more treatments (or populations) at a selected probability level. This determined if the differences among the means represented significant differences between the treatments (or populations) or chance differences due to sampling error (Gravetter & Wallnau, 2007). A follow-up test would have been completed had there been a significance found between groups. Because of the small sample size, the significance level was .05.

CHAPTER FOUR

Results

Purpose of the Study

The purpose of this comparative efficacy study was to determine the effect of elective participation in one of three implementation year Career Academies: Education, Entrepreneurship, or Finance, on upper-class high school academic grades, Grade Point Average, and school academy participation measures.

Student Academic Proficiency Levels

Participating students were grouped into three academic proficiency levels based on results on three of their high school Essential Learner Outcome (ELO) Assessments including math, reading, and analytical writing, taken prior to their junior year of high school. While students must meet the standard for each assessment (beyond proficient, proficient, or barely proficient) as part of the Millard Public Schools Graduation Requirements, the assessments are measured as beyond proficient, proficient, barely proficient, and below proficient. For the purpose of this study, student proficiency results were used to group the students into one of three academic proficiency levels: Above Average, Average, and Below Average. Based on the specified criteria, Table 1 indicates nine students were placed in the Above Average group. The Average group contained 20 students. The Below Average group contained four students.

Research Question #1

Are students participating in the career academies at all proficiency levels academically successful as measured by student Grade Point Average (GPA)? Analysis was completed between academic proficiency levels (Above Average, Average, and

Below Average) as the grouping data and descriptive statistics utilized and reported with means and standard deviations. Table 2 indicates that students within the Above Average academic grouping held high Grade Point Averages (GPA) prior to participation in the implementation year of the MPS Career Academies, which held true during their first year of courses while participating in the MPS Career Academies. The connection between Millard Public School Essential Learner Outcome (ELO) assessments and the curriculum standards and indicators within the assessment subject areas are closely aligned with the written, approved, and taught curriculum. Students performing at the highest level on the Essential Learner Outcome (ELO) assessments will most often do well within their courses. With the moderate/large Standard Deviation, the small dip which occurred in Grade Point Averages (GPA) within all three academic levels from pre-academy experience to courses taken during the implementation year indicates a student would have similar academic success during their academy experience as they did prior to participation within the academy program if they were given the opportunity to repeat the course study.

Research Question #2

Is there a difference between student success within the three academic levels as measured by Grade Point Average (GPA) prior to participation in the academies and Grade Point Average (GPA) after participation in the academies? There were no significant differences among the three academic levels as measured by Grade Point Average (GPA) prior to participation in the academies and after the first year of career academy implementation (pretest MPSGPA2009/posttest Year1GPA); $F(2, 30) = .865, p = .360$. There were also no significant differences between the three academic levels as

measured by Grade Point Average (GPA) prior to participation in the academies and after the first year of career academy implementation (pretest OverallGPA/posttest ProficGroupingID); $F(2, 30) = .898, p = .418$. Table 3 summarizes the ANOVA results.

Research Question #3

Is there a difference between student success within three academic levels as measured by Grade Point Average (GPA) within academy courses? Within the career academy courses, overall students experienced the same range of success. There was not a statistically significant main effect for overall GPA, $F(2, 30) = .747, p = .482$. There was no significant difference between academic proficiency groups and their ability within their academy courses, $n = 33, m = 3.09$, and SD of $.82655$. MPS Academy Classes Overall GPA by Proficiency Grouping ID for Academic Proficiency Level 1, $n = 4, m = 2.87$, and SD of $.63689$; Academic Proficiency Level 2, $n = 20, m = 3.01$, and SD of $.89412$; Academic Proficiency Level 3, $n = 9, m = 3.37$, and SD of $.74317$, which indicates no significance. These results were to be expected because when noticing the range of academic proficiency levels, they are all similar. It was noted that when reviewing the actual GPA for courses within the academies, there was one student within Academic Proficiency Level 2, who finished with a $.38$ GPA; removing that student's results, yielded Academic Level 1 with a minimum GPA of 2.03 and maximum of 3.53 ; Academic Level 2 demonstrated a minimum GPA of 2.25 and maximum of 4.15 with Academic Level 3 showing a minimum GPA of 2.28 and maximum of 4.15 .

Research Question #4

Is there a difference between student success within three academic levels as measured by Grade Point Average (GPA) within non-academy courses? A one-way

Analysis of Variance (ANOVA) was used to determine if there was a difference between student success within the three academic levels among courses taken outside the career academies as students spent half the day within academy courses and half the day taking courses at their “home” high school. Within non-career academy courses, students experienced the same range of success; $F(2, 30) = .430, p = .655$. There was no significant difference between academic proficiency groups and their ability within their non-academy courses. There was not a statistically significant main effect for overall GPA, $F(2, 30) = .430, p = .655$. There was no significant difference between academic proficiency groups and their ability within their non-academy courses, $n = 33, m = 3.02$, and SD of .79476. MPS Non-Academy Classes Overall GPA by Proficiency Grouping ID for Academic Proficiency Level 1, $n = 4, m = 2.72$, and SD of .54549; Academic Proficiency Level 2, $n = 20, m = 3.01$, and SD of .84502; Academic Proficiency Level 3, $n = 9, m = 3.17$, and SD of .80543, which indicates no significance.

However, it was noted that the range between the lowest and highest Grade Point Averages (even with removal of the .80 GPA in non-academy courses for the same student mentioned above) was greater than when comparing within academy courses. Analysis of data for non-academic courses yielded Academic Level 1 with a minimum GPA of 2.33 and maximum of 3.53; Academic Level 2 demonstrated a minimum GPA of 1.15 and maximum of 4.00 with Academic Level 3 showing a minimum GPA of 1.79 and maximum of 4.00. Another consideration is that academy courses are a narrow set of offerings based on specific pathways, while the non-academy courses include a wide variety from elective to required courses and non-academic through Advanced Placement[®] level courses.

Research Question #5

Is there a difference between student perceptions within the three academic levels as measured by selected survey items from the May, 2010, *Program Evaluation for Millard Career Academies* for the following questions? Thirty of the thirty three students involved in the study completed the May, 2010, survey ($n = 30$) including three within the Academic Proficiency Level 1 ($n = 3$); nineteen in Academic Proficiency Level 2 ($n = 19$); and, eight in Academic Proficiency Level 3 ($n = 8$). A one-way Analysis of Variance (ANOVA) was used for *Program Evaluation for Millard Career Academies* survey items within the three academic levels for each of the following sub-questions.

Sub-Question 5a. While participating in the career academy during this semester, how much effort did you make to be successful in your courses? Choices for students included: no effort $n = 0$, very little effort $n = 1$, moderate effort $n = 15$, or great deal of effort $n = 14$. Each of these choices was given a numeric value and averaged. Analysis of the descriptive statistics supports that there is no significant difference between academic proficiency groups and student perceptions regarding how much effort students exerted during their academy courses; $F(2, 27) = .285, p = .755$. There was also no significant difference between academic proficiency groups and their perceived effort during the academy courses, $n = 30, m = 3.43$, and SD of $.568$. Perceived effort during academy courses by Proficiency Grouping ID for Academic Proficiency Level 1, $n = 3, m = 3.67$, and SD of $.577$; Academic Proficiency Level 2, $n = 19, m = 3.42$, and SD of $.607$; Academic Proficiency Level 3, $n = 8, m = 3.38$, and SD of $.518$, which indicated no significance. The range of 3.38 and 3.67 indicated that students self-identified exerting moderate to a great deal of effort while participating in academy courses.

Sub-Question 5b. How much effort did you make to be successful in your other courses during this semester? Choices for students included: no effort $n = 0$, very little effort $n = 3$, moderate effort $n = 20$, or great deal of effort $n = 7$. Each of these choices was given a numeric value and averaged. Further analysis of the one-way ANOVA indicates that there is no significant difference between academic proficiency groups and student perceptions regarding how much effort students exerted during their non-academy courses during the implementation year of the career academies; $F(2, 27) = .196, p = .823$. There were also no significant differences between academic proficiency groups and their perceived effort during the non-academy courses, $n = 30, m = 3.13$, and SD of $.571$. Perceived effort during academy courses by Proficiency Grouping ID for Academic Proficiency Level 1, $n = 3, m = 3.33$, and SD of $.577$; Academic Proficiency Level 2, $n = 19, m = 3.11$, and SD of $.567$; Academic Proficiency Level 3, $n = 8, m = 3.13$, and SD of $.641$, which indicated no significance. The range of 3.11 and 3.33 indicated that students felt they also spent moderate to a great deal of effort during their non-academy courses.

Sub-Question 5c. How difficult were courses in the academy compared to the other courses you took during this semester? Choices for students included: less difficult $n = 1$, about the same difficulty $n = 9$, or more difficult $n = 20$. Each of these choices was given a numeric value and averaged. Review of the data regarding how students believe the academy courses compared to the non-academy courses in regard to difficulty indicates that there was no significant difference between academic proficiency groups and their perceptions; $F(2, 27) = .006, p = .994$. There were also no significant differences between academic proficiency groups and their perceived effort comparing

career academy and non-academy courses, $n = 30$, $m = 2.63$, and SD of $.556$. Perceived effort comparing career academy and non-academy courses by Proficiency Grouping ID for Academic Proficiency Level 1, $n = 3$, $m = 2.67$, and SD of $.577$; Academic Proficiency Level 2, $n = 19$, $m = 2.63$, and SD of $.597$; Academic Proficiency Level 3, $n = 8$, $m = 2.63$, and SD of $.518$, which indicated no significance. The range of 2.63 and 2.67 , which indicated most of the students expressed the academy courses were more difficult, regardless of their academic level. Also interesting to note, is that the Average and Above Average Academic Proficiency groups responded equally to academy courses being more difficult with a mean of 2.63 .

Table 1

Student Academic Levels for the Purpose of this Study Based on Results of Three Essential Learner Outcome (ELO) Assessments Prior to Their Junior Year of High School: Math, Reading and Analytical Writing

Above Average ($n = 9$)	Average ($n = 20$)	Below Average ($n = 4$)
Academic Level 3	Academic Level 2	Academic Level 1
3 Beyond Proficient <u>or</u>	1 Beyond Proficient + 2	1 Proficient + 2 Barely
2 Beyond Proficient + 1	Proficient <u>or</u>	Proficient <u>or</u>
Proficient	3 Proficient <u>or</u>	3 Barely Proficient <u>or</u>
	2 Proficient + 1 Barely	Any Below Proficient
	Proficient <u>or</u>	
	1 Beyond Proficient, 1	
	Proficient + 1 Barely	
	Proficient	

Table 2

Descriptive Statistics for Participating Millard Public School Students Grade Point Average (GPA) Prior to Participation in the Implementation Year of the Career Academies and Courses Taken During the Implementation Year

	Academic	Academic	Academic	
	Level 1	Level 2	Level 3	Total
GPA 2009				
<i>M</i>	2.81	3.21	3.35	3.20
<i>SD</i>	.34	.60	.53	.57
GPA Year 1				
<i>M</i>	2.80	3.01	3.27	3.06
<i>SD</i>	.53	.83	.76	.77

Table 3

Results of Analysis of Variance (ANOVA) for Difference between Student Success within the Three Academic Levels as Measured by Grade Point Average (GPA) Prior to Participation in the Academies and Grade Point Average (GPA) after Participation in the Academies

Source of Variation	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>	<i>d</i>
Within Groups					
Overall GPA	1	.096	.865	.360	ns
Proficiency Groups	2	.041	.374	.691	ns
Error	30	.111			
Between Groups					
Proficiency Groups	2	.735	.898	.418	ns
Error	30	.818			

ns = not significant

Table 4

Results of Analysis of Variance (ANOVA) for Student Success for within Three Academic Levels as Measured by Grade Point Average (GPA) within Academy Courses

Source of Variation	Sum of Squares	Mean Square	<i>df</i>	<i>F</i>	<i>p</i>	<i>d</i>
Between Groups	1.037	.519	2	.747	.482	ns
Within Groups	20.825	.694	30			ns

MPS Academy Classes Overall GPA by proficiency grouping ID

	<i>n</i>	<i>M</i>	<i>SD</i>
Academic Proficiency Level 1	4	2.87	.63689
Academic Proficiency Level 2	20	3.01	.89412
Academic Proficiency Level 3	9	3.37	.74317
Total	33	3.09	.82655

ns = not significant

Table 5

Results of Analysis of Variance (ANOVA) for Student Success for within Three Academic Levels as Measured by Grade Point Average (GPA) within Non-academy Courses

Source of Variation	Sum of Squares	Mean Square	<i>df</i>	<i>F</i>	<i>p</i>	<i>d</i>
Between Groups	.563	.282	2	.430	.655	ns
Within Groups	19.650	.655	30			ns

MPS Non-academy Classes Overall GPA by proficiency grouping ID

	<i>n</i>	<i>M</i>	<i>SD</i>
Academic Proficiency Level 1	4	2.72	.54549
Academic Proficiency Level 2	20	3.01	.84502
Academic Proficiency Level 3	9	3.17	.80543
Total	33	3.02	.79476

ns = not significant

Table 6

Results of Analysis of Variance (ANOVA) for Program Evaluation for Millard Career Academies Survey Item: Self-identified Effort Made While Participating in Career Academy Courses

Source of Variation	Sum of Squares	Mean Square	<i>df</i>	<i>F</i>	<i>p</i>	<i>d</i>
Between Groups	.193	.097	2	.285	.755	ns
Within Groups	9.173	.340	27			ns

Perceived Effort During Academy Courses by proficiency grouping ID

	<i>n</i>	<i>M</i>	<i>SD</i>
Academic Proficiency Level 1	3	3.67	.577
Academic Proficiency Level 2	19	3.42	.607
Academic Proficiency Level 3	8	3.38	.518
Total	30	3.43	.568

ns = not significant

Table 7

Results of Analysis of Variance (ANOVA) for Program Evaluation for Millard Career Academies Survey Item: Self-identified Effort Made While Participating in Non-academy Courses during the Implementation Year of the MPS Career Academy Program

Source of Variation	Sum of Squares	Mean Square	<i>df</i>	<i>F</i>	<i>p</i>	<i>d</i>
Between Groups	.136	.068	2	.196	.823	ns
Within Groups	9.331	.346	27			ns

Perceived Effort During Non-Academy Courses by proficiency grouping ID

	<i>n</i>	Mean	SD
Academic Proficiency Level 1	3	3.33	.577
Academic Proficiency Level 2	19	3.11	.567
Academic Proficiency Level 3	8	3.13	.641
Total	30	3.13	.571

ns = not significant

Table 8

Results of Analysis of Variance (ANOVA) for Program Evaluation for Millard Career Academies Survey Item: Self-identified Comparison of Courses within the Academy Compared to Non-academy Courses during the Implementation Year of the MPS Career Academy Program

Source of Variation	Sum of Squares	Mean Square	<i>df</i>	<i>F</i>	<i>p</i>	<i>d</i>
Between Groups	.004	.002	2	.006	.994	ns
Within Groups	8.963	.332	27			ns

Perceived Effort Comparing Career Academy and Non-academy Courses by proficiency grouping ID			
	<i>n</i>	<i>M</i>	<i>SD</i>
Academic Proficiency Level 1	3	2.67	.577
Academic Proficiency Level 2	19	2.63	.597
Academic Proficiency Level 3	8	2.63	.518
Total	30	2.63	.556

ns = not significant

CHAPTER FIVE

Conclusions and Discussion

Overview

The intent of this study was to investigate the effect of elective participation in one of three implementation year Career Academies, Education, Entrepreneurship, or Finance, on upper-class high school academic grades, Grade Point Average, and school academy participation measures. Students were grouped into three academic levels based on district academic measures using the results from three of their high school Essential Learner Outcome (ELO) Assessments including math, reading, and analytical writing, all taken prior to their eleventh grade year. While all participating students successfully met the standards on their high school Essential Learner Outcome (ELO) Assessments, based on results from three of the required assessments including math, reading, and Analytical Writing, the proficiency level results were utilized to group students into three academic levels. The Above Average group (Level 3) contained nine students while the Average group (Level 2) had 20 and the Below Average group (Level 1) included four students. Reference to academic proficiency levels in each of the research questions were based on these details and criteria.

Each of the three traditional high schools in the Millard Public School District hosted an academy during the implementation year with Millard North High School housing the Finance Academy, Millard South High School home to the Entrepreneurship Academy and Millard West High School facilitated the Education Academy. All participating students chose to be inaugural members of the first year of implementation of the Career Academies within the school district and maintained enrollment throughout

the first year of the program. Students met the goal of being a representative group from the district in that there were different levels of academic ability represented and each academy included students from the other high schools. The sources of data used within this study included district level assessment results, grade point averages, and information from the *Program Evaluation for Millard Career Academies*, which were archival and considered to be routinely collected district level data. Permission was sought and granted in April of 2010 from the Millard Public Schools Office of Research and Evaluation (now titled the Department of Assessment, Research, and Evaluation) for the data to be utilized within this study. A coding system was utilized to mask the identification of individual student data.

This chapter contains the conclusions drawn from the research. Then followed by discussion directly related to the study as well as implications for the benefit of the continued implementation and focus of Career Academies within Millard Public Schools as the second year begins with Year Two of the academies included within the study and Year One of three additional academies added in the 2009-2010 school year. Last, included are considerations and recommendations for possible future research.

Conclusions

Research Question #1. Overall, students within all proficiency levels showed that they were as academically successful after participation within the implementation year of the Career Academies as they had been prior to their participation. As expected, the students within the Above Average academic proficiency grouping (Level 3) held higher Grade Point Averages (GPA) prior to participation in the implementation year of MPS Career Academies, and this also held true during the completion of their courses within

the MPS Career Academies. Overall, students in all three of the academic proficiency levels experienced a small dip in their Grade Point Averages (GPA) during their eleventh or twelfth grade year after completing their first year of participation in the academies with Level 1 demonstrating a mean difference of .010, Level 2 showing a mean difference of .195, and Level 3 indicating a mean difference of .076 for a total mean difference of .140.

Research Question #2. Overall, there were no significant differences among the three academic levels as measured by Grade Point Average (GPA) prior to participation in the academies and after the first year of career academy implementation (pretest MPSGPA2009/posttest Year1GPA); $F(2, 30) = .865, p = .360$. There were also no significant differences between the three academic levels as measured by Grade Point Average (GPA) prior to participation in the academies and after the first year of career academy implementation (pretest OverallGPA/posttest ProficGroupingID); $F(2, 30) = .898, p = .418$. Thus, the data supports that students would have similar academic success during their courses within the academy as they did prior to the start of their career academy experience regardless of their academic proficiency level.

Research Question #3. Students experienced the same range of success within the career academy courses as there was not a statistically significant main effect for overall GPA, $F(2, 30) = .747, p = .482$. There were no significant difference between academic proficiency groups and their ability within their academy courses, $n = 33, m = 3.09$, and SD of .82655. MPS Academy Classes Overall GPA by Proficiency Grouping ID for Academic Proficiency Level 1, $n = 4, m = 2.87$, and SD of .63689; Academic Proficiency Level 2, $n = 20, m = 3.01$, and SD of .89412; Academic Proficiency Level 3, $n = 9, m =$

3.37, and *SD* of .74317, which indicated no significance. These results were to be expected because when noticing the range of academic proficiency levels, they are all similar. The range within each of academic proficiency levels was similar. With the minimum GPA of Academic Proficiency Level 1 at 2.03, Level 2 at 2.25, and Level 3 at 2.28 compared to each of the maximum GPA within Academic Proficiency Level 1 at 3.53 and both Level 2 and Level 3 at 4.15. This is important as it highlights that all students have the opportunity to be successful within the career academies. In further analysis of individual participants, of the 33 students completing the implementation year within the career academies, 17 students showed higher Overall Grade Point Averages within their academy courses when compared to their non-academy courses with 5 students showing equal Overall Grade Point Averages within their academy courses when compared to their non-academy courses.

Research Question #4. Overall, there was no significant difference between student success within the academic proficiency levels when taking their non-academy courses taken within their “home” high schools for the other half of the school day. Within non-career academy courses, students experienced the same range of success; $F(2, 30) = .430, p = .655$. There were no significant differences between academic proficiency groups and their ability within their non-academy courses. There was not a statistically significant main effect for overall GPA, $F(2, 30) = .430, p = .655$. There was also no significant difference between academic proficiency groups and their ability within their non-academy courses, $n = 33, m = 3.02$, and *SD* of .79476. MPS Non-Academy Classes Overall GPA by Proficiency Grouping ID for Academic Proficiency Level 1, $n = 4, m = 2.72$, and *SD* of .54549; Academic Proficiency Level 2, $n = 20, m =$

3.01, and *SD* of .84502; Academic Proficiency Level 3, $n = 9$, $m = 3.17$, and *SD* of .80543, which indicated no significance.

This, too, is a positive result as it once again shows that all students have the opportunity to be successful within the career academies. There was a greater range between the lowest and highest Grade Point Averages when comparing non-academy courses to the academy courses results. With the minimum GPA of Academic Proficiency Level 1 at 2.33, Level 2 at 1.15, and Level 3 at 1.79 compared to each of the maximum GPA within Academic Proficiency Level 1 at 3.53 and both Level 2 and Level 3 at 4.00. One reason for the greater range could be that the academy courses are a narrow set of offerings based on specific pathways, and students selected to participate out of interest with the specific academy. Another reason could be that the non-academy courses include a wide variety including elective and required courses and a range of non-core academic courses through Advanced Placement[®] courses. Upon further review of the results, 11 students showed higher Overall Grade Point Averages within their non-academy courses when compared to their academy courses; however, seven of these students showed a higher GPA for their non-academy courses compared to their GPA prior to the this school year.

Research Question #5. When determining if there was a difference between student perceptions within the academic proficiency levels, three questions and student responses to those questions as measured by the May, 2010, *Program Evaluation for Millard Career Academies* were utilized. When asked how much effort students made to be successful while participating in the career academy, an analysis of the descriptive statistics showed that there was not a significant difference between academic proficiency

levels and student perceptions regarding how much effort they exerted during their academy courses with a range of 3.38 and 3.67, which indicated that students self-identified exerting moderate to a great deal of effort within their academy courses. When asked how much effort students made to be successful within their non-academy courses, again there was no significant difference between academic proficiency levels and overall responses with a range of 3.11 and 3.33, indicating students felt they also spent moderate to a great deal of effort within their non-academy courses. Last, when asked to self-reflect on how difficult the courses within the academy compared to their other courses, choices included less difficult, about the same difficulty, or more difficult. Review of the data showed that there was no significant difference between academic proficiency levels and their perceptions as the range of the means was 2.63 and 2.67, which indicated that, overall, students felt the academy courses were more difficult.

Discussion

The results of this study supported that student success after the first year of the implementation of the career academies was experienced by students within all proficiency levels. Continued marketing to students who show an interest connected to one of the fields within the career academies while encouraging students who might not see themselves as having college potential is important as learned through the literature review and supported within this research.

Within the opening of this study, questions were posed as to the possibility of courses being designed and pathways created through Career Academies while allowing students the opportunity to graduate from high school with a better understanding of their future through internships, business partnerships, Advanced Placement® courses

embedded within a defined program, college credit through dual enrollment opportunities, or a two-year certificate guaranteeing their level of experience be more appropriate and meaningful during their last two years of high school. This was the first year of implementation for such a program, which this study showed has had positive results for the attended audience, which included students with a range of academic ability.

Besides the quantitative data, some of the quotations shared by students assisted in determining what they felt the benefit of being involved in one of the academies during the implementation was: “I have always been interested in teaching. This academy has helped me to see how teachers really work and teach. I wanted to see if I could handle it. I didn’t know how much teachers needed to know and do, so I got into the academy to witness that.”

“I have my own business idea that I believe will be successful. And being in this academy shows how I can apply myself to my own dreams, and also in these classes I’m learning skills that will help me in college.”

Rigorous Curriculum and Relevance. Opening challenging classes, which are relevant and engaging and where students can gain college credit assists students in believing in their own potential beyond their high school years whether the dual enrollment courses are through Advanced Placement or Career Technical Education opportunities (Karp, et al. 2007; Wakelyn, 2009). The Millard Public School Career Academies provide students with a blend of high school courses required for graduation and dual enrollment opportunities through connected courses to the career technical education focus of the academy through a detailed, outlined sequence of study or

pathway, including Advanced Placement[®] courses where appropriate, combined with internship experiences during the second year of participation within the academies.

Connecting high school coursework to elements of adulthood by handling actual responsibilities, like those obtained when immersed in internship opportunities related to their interests, followed by classroom discussions and reflections will assist in engaging students because they will better see the relevance within their studies while also promoting skills and knowledge for future goals (Allen & Allen, 2010; Levine, 2010).

The data indicates while all of the proficiency level dips were slight, the smallest dip was among the lowest proficiency level followed by the highest proficiency level. This could be explained in that teachers within the district have a strong sense of how to build differentiated opportunities within their courses while working with students who may need reteaching or intervention strategies. As part of an on-going district focus, teachers have been provided staff development opportunities directly related to differentiation and best instructional practices defined through the Millard Instructional Model (MIM). The importance of utilizing flexibility and a range of instructional strategies while facilitating and working in partnership with students are important components of differentiated instruction (Tomlinson, 1999).

While the data indicated that students in all proficiency levels were successful, there were students who earned a lower Grade Point Average (GPA) during their participation in academy and non-academy courses during the implementation year of career academies. There are several possible reasons for this result. One being that the courses of study within the academies included college level courses, which could have been the first exposure to this more rigorous level of course study for students. Assisting

students with transition to college level courses, whether they are Advanced Placement courses and/or dual enrollment courses is important for student success. The continued application of transition lessons and activities assists the majority of students in all proficiency levels achieve success within their academy courses. Students who participate in opportunities where they can earn college credit while in high school improve their ability to be accepted into colleges (Wakelyn, 2009).

The importance of making the content within the dual enrollment courses relevant and applicable to high school students is also a factor in helping students be successful. Collaboration with the postsecondary institutions in an effort to align course curriculum within a specific pathway of study assisted in this effort. Comments shared by students at the end of their first year of participation within the Career Academies related to academic rigor and relevance included the benefit of dual enrollment, getting a “head start” when compared to others who might not have had the same opportunity, feeling more confident as a college student having taken college level courses while in high school, and it provided tools to use in college. It is important that high schools continue to not just focus on the courses available to students, but more importantly, on the rigor and substance of those courses while postsecondary institutions also become partners with secondary institutions (Adelman, 2006).

Relationships and Engagement. Building relationships between the high school teachers and students is critical for student success. When talking to teachers about why they chose the profession, they will often share that it is a calling, a passion, a love of working with students and will easily be able to share a teacher that made a difference in their own lives. Students thrive when their teachers enjoy their work. High school

teachers best understand the unique needs of their eleventh and twelfth grade students and being able to apply their knowledge of student learning and engagement as students transition to college level coursework within the high school setting is critical for student success. Students shared through the May, 2010, *Program Evaluation for Millard Career Academies* that the academy courses were perceived as more difficult, yet the relationship that the students and adults created through advisement, differentiation, reinforcement, and flexible scheduling within the academy blocks assisted in students being successful. At the secondary level, the stronger student and teacher relationships are viewed as respectful mentor-mentee relationships (Gordon, 2006). Perhaps the strong relationships gained can be used to both support the current academy students and encourage other students to become a part of future academies.

As students shared from their experience in the first year of academies, they included thoughts about engagement and relationships including the benefit of participating in an internship and being able to see what a typical work day would be like in their career field, real life experiences, and having the opportunity to work with students from other schools. When students feel a teacher cares and believes in them, they are more likely to be engaged in their learning. Students engaged in their learning feel more supported by their teachers than peers who do not experience such support and students are more engaged when they have the opportunity to make decisions about their own learning (Kelm & Connell, 2004).

Also important is building the relationships between faculty members when needing to work together in the dual enrollment environment. Administrative and teaching staff, working collaboratively between the school district and the postsecondary

institutions in an effort to retain the rigor of the college level courses within a high school setting is on-going as part of the developmental process. Teacher and professor preparation through staff development and collaborative dialog is a continued need in order to assist high school students in understanding the transition to college level coursework. Providing opportunities for staff members to meet prior to the start of each semester would also assist in strengthening collaborative relationships, especially needed when a postsecondary professor is a teacher of record for a dual enrollment course at the high school.

The instructional approach utilized within the academies is the same as expected within all high school courses, in that students work towards rigorous standards while the teaching staff provides needed support, differentiation, and strategies that will assist all students in being successful. The blend of these strategies while creating engaging, interactive lessons in order for the students to be successful within the dual enrollment courses is of significance. Continuing to find ways to assist with career trends and bridging the gap between high schools, postsecondary institutions, and businesses and the focus on collaborative partnerships is increasingly important so that students can be make more informed choices prior to high school graduation, which will have a positive impact on the upcoming workforce (Jones, 2010).

The importance of having teacher credentials approved by the postsecondary institutions prior to teachers being hired for the academies became evident as the high school teachers would then be considered adjunct faculty. This would alleviate the need to have a teacher of record at the postsecondary institution working with the high school teacher, which better assists in establishing the high school teacher as the facilitator of

learning within the high school classroom setting while students gain their high school credit while also earning college credit for the dual enrollment courses.

Further Research

This study focused on the implementation year of the career academies within one school district. While this study was encouraging in that the data supported a positive effect of involvement within career academies by eleventh and twelfth grade high school students during the implementation year, it is limited to the first year of a two year program and included a small population of students. It would be of interest to have continued research completed regarding dual enrollment opportunities for high school students within their high schools connected to Career Technical Education pathways of study, similar to the Millard Public School model. Also of interest would be further research following the career academy participants after their high school years to determine their success within college and/or careers connected to their experiences within the career academies.

Overall Conclusion

It was exciting to find through this study that the academy programs implemented during the 2009-2010 school year were of success. Students experienced a rigorous curriculum within an encouraging environment relevant to their needs and were able to be successful regardless of their academic proficiency level. While the study indicated success for those involved, the promise of additional experiences during their second year of participation, including their internship opportunities, and the benefit of future students in the two year academies will continue to grow. While students indicated through the May, 2010, *Program Evaluation for Millard Career Academies* that course work within

the academies was more difficult they experienced academic success at a degree commensurate to college level courses. In addition to the forty credits earned toward high school graduation, academy participants earned dual enrollment credit with Metropolitan Community College and the University of Nebraska at Omaha.

As the district moved forward with planning for the 2010-2011 school year with the execution of the second year of the academies within this study and the implementation of the additional three academies (Culinary Skills, Health Sciences, and the Transportation, Distribution, and Logistics), one area of change occurred in that new teachers hired for any of the academies met the needed credential qualifications for post secondary adjunct faculty status. Additional staff development was provided for academy teachers on effective instructional and communication practices for dual enrollment courses as these courses are taken by high school students with a range of academic abilities.

Further efforts in the area of communication and staff development for high school advisors and counselors as well as middle school counselors who work with eighth grade students were continued in order to provide a deeper understanding of the MPS Career Academies as more students inquire about dual enrollment opportunities within the district. The results of this study will also assist in marketing for the academies as the district continues to add more rigorous and relevant opportunities for students.

Currently there are 134 students enrolled across the six MPS Career Academies with thirty-two in the Education Academy; seventeen enrolled in Entrepreneurship Academy; eight participating in the Finance Academy; eighteen in the Culinary Skills Academy; and, eleven in Transportation, Distribution, and Logistics Academy. Most

exciting was the enrollment of forty-eight students in the Health Sciences Academy, which created the need for two sections, thus allowing all forty-eight students to engage in this opportunity. The Millard Public Schools Foundation provided scholarships for half the reduced rate tuition for all academy participants for the first semester of 2010-2011, and will continue funding for those participants who maintain a C grade point average on a ten point college grading scale. This effort assisted more students in being able to participate.

The study also contributed to the reflection process as planning for the six career academies for the 2011-2012 school year. The district continued to review and revise course sequence for each of the academies. One change as a result of those efforts was that all but one academy will offer English 11 where students complete the required standards and indicators; however, the lens by which they will participate in literature and writing will reflect the focus of the career academy. This change will assist students in completing a course that is required for graduation within their academy course work, a recommendation from students who felt this is a point to consider when deciding to apply. As the teachers worked with first year students in the Transportation, Distribution and Logistics Academy, students provided input on what would attract future students and through those discussions posed the idea of changing the title of the academy to better identify and market it. Their idea of dropping transportation from the title and adding management is currently being considered as it does truly better reflect the intent of this academy, Distribution and Logistics Management.

The implementation year of the academies has given the district a starting place to better engage high school students while encouraging them to consider their future

education and career paths while completing their graduation requirements. It is, without a doubt, that providing high school students with rigorous curriculum through dual enrollment opportunities, as indicated through the research within this study, will assist students in being more engaged during their eleventh and twelfth grade years of high school.

CHAPTER SIX

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APPENDICES**APPENDIX A**

Please contact the author for information regarding the school district study approval letter.

APPENDIX B

Program Evaluation for Millard Career Academies

The *Program Evaluation for Millard Career Academies* was used as a means to measure student perceptions prior (August, 2009), during (December, 2009), and at the end of the implementation year of the academies (May, 2010) as a measurement for the Millard Public School District.

Three of the questions from the May, 2010, self-survey were utilized within this study and are noted below followed by the numeric value of the response for analysis purposes. In addition, two open-ended questions, documented below, provided the ability to provide student comments within Chapter 5 of this study.

1. While participating in the career academy during this semester, how much effort did you make to be successful in your courses?

No effort (1)

Very little effort (2)

Moderate effort (3)

Great deal of effort (4)

2. How much effort did you make to be successful in your other courses this semester?

No effort (1)

Very little effort (2)

Moderate effort (3)

Great deal of effort (4)

3. How difficult were courses in the academy compared to other courses you took during the semester?

Less difficult (1)

About the same difficulty (2)

More difficult (3)

4. Students were asked to rank their top three choices for participating in the career academy, followed by a question on why they made the choice of their first ranked reason. Some of the comments referencing their first rank choice to why they participated were included in Chapter 5.

5. What benefits (advantages) do you anticipate will occur as a result of participation in the career academy?