AN EVALUATION OF THE EFFICACY OF THE MOREHEAD STATE UNIVERSITY DUAL ENROLLMENT PILOT PROJECT AT PIKE CENTRAL HIGH SCHOOL

ABSTRACT OF APPLIED PROJECT

An applied project submitted in partial fulfillment

of the requirements for the degree of

Education Specialist at Morehead State University

by

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Pikeville, Kentucky

Committee Chairman: Dr. Dean Owen

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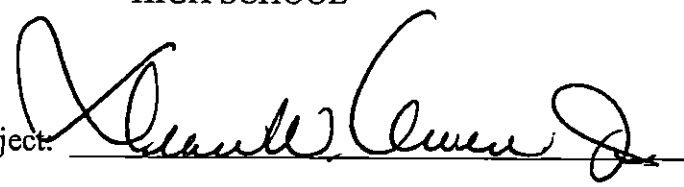
2007

AN EVALUATION OF THE EFFICACY OF THE MOREHEAD STATE UNIVERSITY DUAL ENROLLMENT PILOT PROJECT AT PIKE CENTRAL HIGH SCHOOL

Director Of Applied Project: 

The purpose of this descriptive study was to examine and evaluate the pilot dual enrollment program initiated by Morehead State University at Pike Central High School. The population for this study consisted of the students that had previously or were currently participating in a dual enrollment project at Pike Central High School in Pikeville, Kentucky. The underlying question for this study: What was the impact of a dual enrollment project at an eastern Kentucky high school? Five research questions were investigated (1) What are the demographics of the participants of the dual enrollment project?; (2) What are some of the academic attitudes of the dual enrollment participants?; (3) Are there differences in academic attitudes by gender?; (4) Are financial considerations perceived by students as a barrier to education?; and (5) Do dual enrollment participants perceive that the program can assist in preparing them for matriculation into postsecondary education?

A survey instrument was used to solicit and record information from participants perception on four areas: (1) academic attitudes and behaviors, (2) parental/guardian attitudes, (3) financial issues, and (4) program evaluation. Likert-

type rating scales were used for the academic attitudes and behaviors and on the program evaluation. Participants were asked to respond with Yes, No, or Uncertain for the parental/guardian attitudes and financial issues areas.

Descriptive statistics were examined to investigate the various research questions. Over a two year span, sixty-seven students participated in the project. An independent t-test was used to investigate any difference in academic attitudes by gender. The finding indicated that there was a statistical difference in the academic attitude index with females indicated a higher attitude towards the academics than the males. However, this difference was not meaningful.

The findings of this study indicated that the role of the dual enrollment project had a positive effect upon the attitudes of students. Students felt positive regarding the challenges of the courses made available to them. The barrier associated with the cost of taking college courses was eliminated along with supplemental costs for textbooks, housing, travel, and meals. Students indicated that the dual enrollment program was a positive experience for them. As one student put it, "Dual enrollment was a tremendous experience for me. You'd be proud of how well I'm doing at MSU!" Follow-up studies are needed to further investigate the impact of the dual enrollment project on the successful transition and completion of post secondary education.

Accepted by: _____, Chair

_____

_____

APPLIED PROJECT

Lula N. Bowling, M.A. in Education

Graduate School

Morehead State University

2007

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Committee Chair: Dr. Dean Owen

Professor of Education

Morehead, Kentucky

2007

Accepted by the graduate faculty of the College of Education,

Morehead State University,

in partial fulfillment of the requirements for the

Education Specialist degree in Counseling

Director of Applied Project

Applied Project Committee: , Chair

David Barnett

August 15, 2007
Date

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It seems appropriate for me to recognize those individuals who contributed in a significant way to the completion of not only the coursework, but of this study.

Kudos to Dr. Wayne Andrews, President of Morehead State University and Dr. Dale Duvall, Special Assistant to the President, for the inception and development of the Pike County Dual Enrollment pilot project, and to the faculty and staff of Pike Central High School for their efforts in its implementation.

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CHAPTER ONE

INTRODUCTION

Few doubt the premise that there are clear economic benefits resulting from continuing education beyond high school. Continuing education through completion of a bachelor's degree reaps both personal and societal benefits in that formal education has a tremendous impact on U.S. economic growth and prosperity, increasing workforce productivity, and personal earnings.

The 2005 U.S. Census Bureau reveals median annual earnings for a high school graduate, or those with a General Equivalent Diploma (GED), to be $34,931 while median earnings for graduates of bachelor's programs to be $61,368. The difference, compounded annually, represents a tremendous difference to both the individual and to society (James, 2002; NCES, 2001; Plucker, Chien, & Zaman, 2006). The unemployment rate for high school dropouts is four times higher than that of college graduates (NCES, 2006). Clearly, as stated by the Prichard Committee for Academic Excellence, "learning equals earning" (PCFAC, 2005, p. 2). However, according to the National Center for Educational Statistics (2006), too many students are dropping out of school during their senior year and far too few students are attempting to enter college. Of every 100 ninth graders who enter high school in Kentucky, only sixty-seven will graduate from high school and only thirty-nine will attempt college. Of those thirty-nine attempting college, only fifteen will complete a bachelor's degree within six years of entry (PCFAE, 2005). Three questions evolved from these statistics: (1) Why are students dropping out of high school?; (2) Why are

more students not choosing college?; and (3) Why are more students not completing a bachelor's degree when they do make a decision to attend college?

Andrews & Davis (2003) indicated that one of the primary causes of high school students losing interest in completing high school and continuing education is a lack of academic intensity, especially during the senior year. Lords (2000) supported this theory and suggested that most underachieving students were not being challenged and saw little relationship between their achievement in high school and future success. Aldeman (1999) further maintained that the strongest predictor of a bachelor's degree completion is the academic rigor of the high school curriculum. Research efforts report findings that supported the relationship of the high school academic rigor, and students continuation and completion of education beyond high school (Andrews, 2001; Bailey, Hughes, and Karp, 2003; Duffy, 2002; NCES, 2001; Peterson, 2003; Robertson, 2005).

The "senior slump" in high school can have negative consequences for students. Some of these consequences including remediation costs in time and money, poor attendance, frustrations in determining what to do after graduation, and a greater likelihood of dropout (Peterson, 2003). According to the Pritchard Committee for Academic Excellence, "...the senior year is a special problem..." (p. 3). The last year of high school is often a time when students fall behind because, having already obtained the credits they need for graduation, they select courses they have classified as being an "easy A's" (Barnett & Bowling, 2006). Since Kentucky Educational Excellence Scholarship (KEES) monies are based on a student's grade point average,

the senior year is often a time when students are inclined to choose electives with an eye toward improving their GPA rather than embracing pre-college courses. Many seniors, having met the credits needed for graduation, choose paid employment for half of the school day (Barnett & Bowling, 2006). "The senior year is becoming an educational wasteland for too many students who accumulate all or most of the credits they need for a diploma by the end of their junior year" (PCFAE, 2005, p. 4).

Further, students who "waste" their senior year, even if they are engaged in challenging courses during freshman, sophomore, and junior years, are often unprepared for college level work and have a greater likelihood for dropping out (Karp, Bailey, Hughes, & Fermin, 2005; Kirst, 2001; Plucker et al, 2006). Students have a tendency to lose key concepts and academic skills when not challenged or when those concepts and skills are not regularly practiced. This widens the gap in the transition between high school and college. "The most inhospitable terrain in America's education system has always been the no man's land between high school and college, which the vast majority of students were neither expected nor prepared to traverse" (Robertson, 2005, p. 38).

The National Commission on the High School Senior Year reported that students find the last year of high school to be "boring" or "a waste of time", and concluded that high schools need to engage students in more rigorous coursework (2001, p. 16). The Commission further advocated institutions of higher education to become involved with high schools in providing opportunities for high school students to enroll in more challenging course work (NCHSSY, 2001). Universities

and community colleges invite seniors to visit their campus, hold meetings at high schools to provide information regarding admission and financial applications, participate in job fairs, allow professors to participate in exchange programs with secondary teachers, and promote dual credit opportunities.

Dual enrollment, a means whereby students can concurrently earn both high school and college credits for the same course, appears to be a viable option for providing challenge and increasing rigor during the senior year and for closing the gap between high school and college (Andrews, 2004; Bailey & Karp, 2003; Clark, 2001; Duffy, 2002; James, 2002; Kleiman, 2001; Welch, Brake, & Choi, 2005). The intensity and quality of the high school curriculum has been found to be the strongest predictor of bachelor's degree completion (Adelman, 1999; Plucker et al, 2006). It would only make sense then to incorporate the more intense rigor of dual enrollment into the high school curriculum.

Rather than pursuing further education, some graduating seniors enter either the military, the work force, or start a family. The idea of continuing their education is not part of their plan. Possibly the lack of interest while attending high school has inhibited high school students' desire to continue their education. As Andrews & Davis (2003) reported, students just do not have the aspiration to continue on a path of what might have been perceived as a boring event.

CHAPTER TWO

REVIEW OF LITERATURE

Introduction

Although there are many programs and initiatives designed to enhance student success and motivation, dual enrollment is one approach that has grown dramatically in the last decade and appears to enhance student success (Anderson, 2004; Bailey & Karp, 2004; Chmelynski, 2004; Hebert, 2001; Hoffman, 2003; Kleiman, 2001; Plucker et al., 2006; Welch et al., 2005). Andrews (2004) suggested that dual enrollment is "the major part of the answer to two national concerns: (1) what to do with the senior year and (2) how to shorten time to degree (baccalaureate) that is now averaging 5 to 5.5 years for students" (p. 415).

Dual Enrollment Nationally

As recently as the 1950s, dual enrollment meant public school and parochial school shared time (Andrews, 2001). Today, dual enrollment is one of the largest movements in education at the start of the twenty-first century and can be defined as students taking college classes and earning college credit while still in high school (Marshall & Andrews, 2002). During the mid-1980s, states began to enact legislation that allowed for students to participate in dual enrollment opportunities (McCarthy, 1999), and at the current time, some form of dual enrollment is found in all but three states (Education Commission of the States, 2001). Currently, forty states have legislation or regulation addressing enrollment of high school students taking college classes. Of those forty states, eighteen states actually mandate that dual enrollment

opportunities be provided to students (Karp et al, 2005; Plucker, 2006). According to the U.S. Secretary of Education's High School Leadership Summit in 2005, Minnesota was the first state to develop a dual enrollment program. Other states engaged in the dual enrollment, but with great variation in form and format. Regulation and legislation varies in detail from state to state, but all support the "students' need to move beyond the 12th-grade curriculum while still enrolled in high school" (McCarthy, 1999, p. 24). In those states mandating dual enrollment opportunities for students, no states require institutions to develop or implement programs. Students are simply to have the opportunity to enroll in post-secondary education while still attending high school. Legislation in other states gives high school and post-secondary institutions the *option* to provide dual enrollment opportunities (Karp et al, 2005). Program variation occurs in how dual enrollment is financed, who can participate, who is qualified to teach, where the courses are offered, and how credit is earned.

According to the National Center for Education Statistics (2005), the primary federal entity for collecting, analyzing, and reporting data related to education in the United States, sixty-four percent (64%) of institutions with dual enrollment programs reported that students themselves (and/or parents) were responsible for paying the costs associated with the courses. Nine percent of institutions relied on scholarships or grants from businesses and non-profit organizations. State funding, school districts, and individual postsecondary institutions make up other funding sources (Kleiner & Lewis, 2005). Some post

secondary institutions, while requiring a student to pre-pay the cost for dual enrollment, elect to reimburse a student upon successful completion of a course and/or full time enrollment at their institution (James, 2002).

How the programs are financed often determines who participates in dual enrollment. Most states authorize dual enrollment for any eleventh- or twelfth-grade student who has no comparable course available in his or her high school, with the intent of providing gifted students with more challenging coursework and decreasing dropout rates (James, 2002; McCarthy, 1999). However, if legislation does not require dual enrollment programs or provide funding, availability may be determined by resources and not by student need (Karp et al., 2005). In that most institutions expect students to pay for all or part of the costs associated with college entrance (Bailey & Karp, 2003; McCarthy, 1999; NCES, 2005), economically disadvantaged students are often filtered out of dual enrollment opportunities by the burdens of tuition (Barnett & Bowling, 2006; HSLS, 2005; Karp et al., 2005; NCES, 2005; Robertson, 2005). Many researchers have found that minority and students from lower socioeconomic backgrounds have more limited access for advanced high school classes than do their peers (Hoffman, 2003; Hoffman & Robbins, 2005; James, 2002; Plucker et al., 2006). First generation college students are more than twice as likely as those with college educated parents to drop out before the second year of college (Hoffman, 2003). Robertson (2005) stated:

> America can no longer afford to be a nation divided into education haves and have-nots. It must find a way to provide all its citizens with

> the opportunity to attain higher levels of education and training than most have attained in the past. Dual enrollment has evolved into a powerful strategy for promoting postsecondary access and success for a broad range of students. It may well be the most significant education reform since the rise of community colleges in the latter half of the 20th century. (p. 48)

Thirteen states have stipulations regulating credentialing of dual enrollment instructors, but those stipulations vary widely (Karp et al, 2005). Those qualified to teach dual enrollment courses varies from state to state. In some states, legislation mandates that all instructional duties lie solely with the postsecondary institution while other states have determined that any certified high school instructor is eligible to teach dual enrollment classes. Most states have policies that fall between these two extremes (Karp et al). The ideal level of credentialing of instructors is difficult to determine. Assurance that a student is receiving quality level instruction is a key issue in the transferability of college credit (James, 2002; Karp et al; Kleiman, 2001). Courses taught by instructors lacking postsecondary credentials may be perceived by colleges and universities to be of lesser quality, and lacking in rigor and challenge (James, 2002; Karp et al). Requiring post-secondary credentials for instructors limits the availability of qualified instructors and potentially limits the availability of courses and programs available to students (Karp et al). A number of programs utilizing high school faculty incorporate specific academic preparation requirements, training, and professional development to ensure teacher quality (James, 2002).

Among institutions with dual enrollment programs, the majority offer courses taken by high school students on their college campuses, and a smaller percentage offer classes in the high school (NCES, 2005). Some educators insist that the experience of dual enrollment is enhanced by classes being held on the college campus (James, 2002). Offering dual enrollment classes on the college campus may provide a "special" learning atmosphere that may increase motivation for high school students, but doing so may unavoidably and significantly limit student access (James, 2002; Karp et al., 2005). Other educators stated that the high school provides an atmosphere of familiarity and support that the students would not receive on a college campus, giving them the opportunity to try out college in a known environment (Hoffman & Robbins, 2005).

A primary attraction of dual enrollment to high school students is the potential of earning college credit. All states are in agreement that the student can earn high school credit when completing college courses, but disagree as to how college credit is accrued. A few states award college credit at the completion of the course, however, several states only award college credit retroactively after a student graduates from high school and enrolls in the postsecondary institution offering the dual enrollment program (McCarty, 1999). In some states, the State Board of Education sets a ratio for equating college credit to high school credit (McCarty). In all scenarios, the college credit earned in high school gives the student the opportunity to complete a college degree in less time than the traditional high school

to college graduation journey (Andrews, 2001; Bailey et al., 2003; James, 2002; McCarty).

Dual Enrollment in Kentucky

Variations in dual enrollment abound, even within a single state. Although dual enrollment was introduced in Kentucky as early as 1977, legislation establishing policies allowing individual institutions and school districts to set their own agreements for accepting dual enrollment credit was promulgated less than six years ago. In 2004, the Kentucky Council of Postsecondary Education (KCPE) Dual Enrollment Task Force, under the direction of the Kentucky State Board of Education, began collecting enrollment data obtained through institutions admissions and registration processes, including course type, student demographics, dual enrollment costs, student access, quality of instruction, and subsequent college matriculation. The task force was composed of members from local school districts and post secondary institutions (KCPE, 2006). According to the KCPE Dual Enrollment Task Force, not all Kentucky institutions offer dual enrollment courses, but of those that do, nearly all post secondary institutions report offering college courses to high school students on their respective college campuses.

Kentucky postsecondary institutions vary widely in their policies for funding dual enrollment courses. The majority of the community college institutions and a third of the public universities charge full tuition for high school students taking dual enrollment courses. Fewer than half of the Kentucky public institutions reduce costs, and in all but one institution offering dual enrollment courses, tuition and

transportation costs are borne by the student and/or the student's family. In a few cases some contribution, usually in the form of books or fees, are made by the public school district (KCPE, 2006).

Since most of the dual enrollment instruction in Kentucky occurs at the post secondary campus, logistically, the majority of the instructors are post secondary faculty. Some courses are taught by high school instructors who meet the Southern Association of Colleges and Schools (SACS) guidelines for teaching undergraduate courses in baccalaureate programs. Kentucky community college institutions require instructors to hold a bachelor's degree in the area of instruction or an associate's degree in the area of instruction plus demonstrated competence in teaching (KCPE, 2006). The majority of public and private two and four year institutions grant college credit for a dual enrollment course taken through any Kentucky institution within the institution's limitations pertaining to program requirements, transfer regulations, and regional accreditation (KCPE, 2006).

Studies of Kentucky's dual enrollment programs have found positive correlations between dual enrollment participation and college matriculation. Sixty-eight percent of students taking academic courses through dual enrollment enrolled in postsecondary institutions the following academic year. This rate exceeds the overall college entry rate of Kentucky's high school graduates (KCPE, 2006).

In spite of the different thinking and approaches, it appears that dual enrollment may be an avenue of motivating students, increasing their chances for post secondary success, and a means of cutting overall college costs and streamlining

education. Removing or reducing the obstacles associated with the costs of tuition, transportation, and books can only serve to reduce barriers to equal access to higher education.

Pilot Project in Rural Kentucky

Would a dual enrollment project challenge students in a rural Appalachian school in eastern Kentucky to be more engaged in learning? In a school with 77% free and reduced lunch, would dual enrollment provide greater access to higher education to a greater number of students? Morehead State University initiated a pilot dual enrollment project with Pike Central High School in Pikeville, Kentucky. A collaborative effort developed that resulted in a four-year pilot project beginning in the fall semester of 2005, in which students were provided the opportunity to acquire up to fifteen hours of college credit, tuition and books free, during their regularly scheduled academic instructional time. Pike Central High School's teachers who met or exceeded the University accreditation standards of a Master's degree plus eighteen additional hours in their respective fields provided instruction. Having the instruction during the school day, with books, transportation and tuition free to students, reduced barriers to serve a more culturally and socio-economically diverse population. This design allowed students to participate in college level courses in an environment of familiarity with instructors and location. Because of the structure of the high school environment, attendance was expected to be more controlled than that of college courses on college campuses.

In order to participate in the program, students must have earned a cumulative grade point average of 3.75. The project was designed for an annual enrollment of twenty seniors in five dual enrollment academic courses. Because of school board established criteria for credits for graduation, many of the qualifying students had a pre-set schedule and only a few seniors were "free" to fully participate. Accommodations were made to allow qualified seniors to enroll in fewer than five classes. Qualified juniors were allowed to participate to fill the classes to a maximum of twenty students per class. Students were offered:

1) English 100 Writing 1
2) Math 152 College Algebra
3) CMSP 108 Fundamentals of Speech Communication
4) CIS 101 Computers for Learning
5) General education elective

Students successfully completing the fifteen hours with a 3.75 grade point average were offered a scholarship to Big Sandy Community and Technical College or to Morehead State University. Including the community college in this pilot project further increased the partners in the collaborative effort and provided more options for students. Students selecting the community college option who completed thirty hours while maintaining a 3.5 grade point average would then be offered a transfer completer scholarship to Morehead State University for the remainder of course work for a bachelor's degree.

Purpose of the Study

The purpose of this study was to examine and evaluate the pilot dual enrollment program initiated by Morehead State University. Specifically, this study sought to answer the following research questions:

1) What are the demographics of the participants of the dual enrollment project?

2) What are some of the academic attitudes of the dual enrollment participants?

3) Are there differences in academic attitudes by gender?

4) Are financial considerations perceived by students as a barrier to education?

5) Do dual enrollment participants perceive that the program can assist in preparing them for matriculation into postsecondary education?

CHAPTER THREE

DESIGN AND METHODOLOGY

Introduction

This was an exploratory, descriptive research study designed to look at the initial years of a dual enrollment project conducted at a high school in eastern rural Kentucky. Responses to statements related to academic attitudes and behaviors, parental/guardian attitudes, financial issues, and program evaluation were obtained from the project participants.

Participants

The participants in this study were 67 Pike Central High School students that either had completed the first year or were enrolled in the second year of the dual enrollment project. Twenty-four of the participants were males (35.82%) and 43 of the participants were females (64.18%). Thirteen students began the program as juniors (19.40%) while 54 students participated as seniors (80.60%). In August of 2005-2006 academic year (project year one), 35 students participated in the pilot dual enrollment project by enrolling in one or more college courses offered by Morehead State University at Pike Central High School. Of the 35 students, six were juniors and 29 of the students were seniors. Three of the seniors enrolled in all five of the college course offerings. In the 2006-2007 academic year, seven juniors and 31 seniors enrolled in the dual enrollment courses for a total of 38 total participants. All six of the 2005-2006 juniors participated as seniors in the 2006-2007 academic year. All

students in both project years were required to have a minimum of a 3.75 grade point average and enrolled in the dual enrollment courses on a voluntary basis.

Instrument

A survey instrument was developed to collect data to reveal demographics and the perceptions of the dual enrollment project participants and to identify possible barriers to education. The survey instrument was developed by the researcher to address the pilot dual enrollment project and was reviewed by other professionals associated with dual enrollment at both the secondary and post-secondary levels. The survey instrument consisted of 21 items designed to reflect the respondent's academic attitudes and behaviors and attitudes toward the dual enrollment program, as measured by a five-point Likert-type, item rating scale format of "strongly disagree" to "strongly agree". The scale range was: 1=strongly disagree with the statement; 2= disagree with the statement; 3=undecided; 4=agree with the statement; and 5=strongly agree with the statement. Student educational status, parent/guardian attitudes toward education, and student financial issues were revealed through 13 categorical "Yes/No/Uncertain" statements. Demographic information such as age, gender, and educational level were also collected. Five open-response items provided respondents further opportunity to reveal participants appraisal of the dual enrollment program. The survey instrument for this investigation was evaluated by several professional educators and appeared to have adequate "face validity". Internal consistency was acceptable with an obtained Cronbach's apha coefficient of .756. The survey instruction is provided in the Appendix.

Procedure

Data were collected from 2005-2006 graduates by means of survey mailed to their homes in October, 2006. Address information was provided by the participants upon entry into the program. A cover letter was included with the survey instrument to assure the participant of the anonymity of the responses. A self-addressed stamped envelope was enclosed to encourage return of survey. Twenty-six participants returned the completed survey out of 29 first year completers, for a return rate of 89.66%.

Data were collected for 2006-2007 participants by survey administered in January, 2007 in dual enrollment classes of participants at Pike Central High School. Of the 38 students, 37 anonymously completed the survey for a return rate of 97.37%. As with the mail surveys, participants were assured of the anonymity of their responses and the completion of the survey was voluntary.

Data Analysis

The intent of this study was to describe the perceptions of participants of the pilot dual enrollment project. This applied project used descriptive statistics as a method of summarizing data.

Upon receipt of completed survey instruments, the responses were coded and entered into SPSS® for Windows for analysis. For the first research question, descriptive statistics for the demographic data were computed which included frequencies and percentage for the gender and age of the participants. The 10

statements that addressed the second research question were summarized by computing the minimum and maximum values along with mean and standard deviation. The same descriptive statistics were computed for the composite academic attitude index. An independent *t*-test was computed to test for statistically significant ($p. < .05$) difference between genders on the academic attitude index. Cohen's *d* was calculated to report the effect size and can be interpreted as: an effect size of .2 as small, .5 as medium, and .8 as large (Cohen, 1988). A Cronbach's alpha of .747 was obtained for the academic attitude index. The null hypothesis investigated was that there was no significant difference between males and females student in regards to composite academic attitude index.

Frequencies were calculated for the four statements related to parental/guardian attitudes. These statements provided an indication of the influence the parents or guardians may have had upon the individual student's academic attitude.

For those statements used consisting of a categorical Yes/No/Uncertain response option regarding financial issues, frequencies and percentages were tabulated. These statements addressed the fourth research question. Finally, for the fifth research question regarding statements related to students' opinion about the dual enrollment program, the minimum, maximum, mean, and standard deviation statistics were computed.

The responses to the five open response items were read by the researcher and categorized according to common threads. Patterns of responses for each of the five

items were then further analyzed for contextual meaning and were used to provide additional meaning to the descriptive statistics.

CHAPTER FOUR

ANALYSIS OF RESULTS

Of the 67 participants, 63 responded to the survey, for a return rate of 94.03%. The following questions have formed the framework of the survey and have guided this study.

1) What are the demographics of the participants of the dual enrollment project?

2) What are some of the academic attitudes of the dual enrollment participants?

3) Are there differences in academic attitudes by gender?

4) Are financial considerations perceived by students as a barrier to education?

5) Do dual enrollment participants perceive that the program can assist in preparing them for matriculation into postsecondary education?

What are the demographics of the participants of the dual enrollment project?

Of the 63 respondents, 19 students (30.16%) were male and 44 (69.84%) were female. Both genders had a range of age from 16 to 19. Table 1 shows the gender and age distribution for the survey respondents.

Table 1

Demographic Data by Gender and Age

	Respondents	Age Frequencies (Percent)			
	N	16	17	18	19
Male	19 (30.16%)	1 (1.59%)	5 (7.94%)	9 (14.28%)	4 (6.35%)
Female	44 (69.84%)	6 (9.52%)	18 (28.57%)	12 (19.05%)	8 (12.70%)
Total	63 (100.00%)	7 (11.11%)	23 (36.51%)	21 (33.33%)	12 (19.05%)

What are some of the academic attitudes of the dual enrollment students?

Participants responding to the survey marked responses to variables concerning academic attitudes on a five-point Likert-type scale with 1 = strongly disagree with the statement; 2 = disagree with the statement; 3 = undecided; 4 = agree with the statement; and 5 = strongly agree with the statement. Table 2 presents descriptive statistics associated with the various descriptors related to the academic attitudes. All 63 of the survey respondents marked responses for each of the academic attitudes listed on the survey.

Table 2

Academic Attitudes (N = 63)

	M	SD	Maximum	Maximum
I believe that education is essential for my future	4.95	0.22	4	5
I like schoolwork that is challenging	4.17	0.75	2	5
I am committed to completing college	4.95	0.22	4	5
Getting good grades is important to me	4.75	0.44	4	5
I work hard to achieve good grades	4.62	0.58	2	5
I rarely miss school/classes	4.43	0.73	2	5
I usually finish homework by time due	4.48	0.59	3	5
I put forth more effort into studies than my peers do	4.17	0.83	2	5
I can motivate myself to do school work	4.43	0.59	3	5
I have made a specific career choice	4.13	0.96	1	5
Academic Attitude Index	4.51	0.35	3.70	5.00

These data indicate a mean greater than 4.0 for each of the variables, indicating that the students were more than "agree with the statement" in terms of the

item-rating scale. The mean for the Academic Attitude Index indicated the group participating in the dual enrollment had a somewhat favorable attitude towards academics (M = 4.51, SD = 0.35). In view of the review of literature concerning student's response to academic challenge, it is of particular interest that 86% of the respondents would "agree with the statement" and "strongly agree with the statement" that they liked challenging school work.

Students responded to four statements addressing the student's perception regarding their parents or guardians attitude toward academic and education. Table 3 provides a summary of the responses given by the students.

Table 3

Parental/Guardian Attitudes (N = 63)

	Yes	No	Uncertain
My parents/guardians believe that a college education is important to my future	60 (95.2%)	2 (3.2%)	1 (1.6%)
My parents/guardians expect me to perform at high levels academically	56 (88.9%)	5 (7.9%)	2 (3.2%)
My parents/guardians reward me for attaining good grades	26 (41.3%)	35 (55.6%)	2 (3.2%)
Neither of my parents graduated from college	37 (58.7%)	25 (39.7%)	2 (1.6%)

Are there differences in academic attitudes by gender?

An independent sample *t*-test was conducted to determine if the males and females had different attitudes towards the statements related to academic attitudes and behaviors. The results indicated that females ($\underline{M} = 4.57$, $\underline{SD} = 0.413$) reported significantly stronger degree of academic commitment than males ($M = 4.36$, $\underline{SD} = 0.305$), $\underline{t}(61) = 2.503$, $p < .05$, $d = .58$ (see Table 4). The effect size, measured by Cohen's *d*, of .58 would be considered medium. However, since both genders reported above an "agree with the statement" rating on the composite academic attitude index, there is no meaningful difference between genders on the academic attitude index.

Table 4

t-test for Academic Attitude Index Between Males and Females Participants

Gender	N	M	SD	SE of Mean	t	df	p
Male	19	4.36	0.413	0.095	2.503	61	.015
Females	44	4.57	0.305	0.046			

Are Financial Considerations Perceived by Students to be a Barrier to Education?

Although 100% of the 63 survey respondents indicated that they agreed or strongly agreed that they were committed to completing a college education, only 17.5% indicated that their parent/guardian had saved money for the expenses of a college education. Almost forty-three percent (42.9%) responded that they or their

parent/guardian would need to borrow money for college expenses and 73.0% indicated that they would need to receive a scholarship or financial aid in order to attend college. Eighteen (18) of the survey respondents indicated in the open response section of the survey that they had chosen dual enrollment classes as opposed to advanced placement classes because there was no out of pocket expenses associated with the dual enrollment classes. Table 5 shows the frequency and percentage of responses to the variables of financial considerations.

Table 5

Financial Issues (N = 63)

	Yes	No	Uncertain
Parent/guardian has saved money for my college education	11 (17.5%)	41 (65.1%)	11 (17.5%)
I have to receive a scholarship or financial aid to attend college	46 (73.0%)	9 (14.3%)	8 (12.7%)
I or my parent/guardian will have to borrow money in order for me to attend	27 (42.9%)	10 (15.9%)	26 (41.3%)

Do Dual Enrollment Participants Perceive That the Program Can Help in Preparing Them For Matriculation Into Post Secondary Education?

Survey respondents responded positively to the survey variable that AP/Dual Enrollment classes helped to prepare them for college, showing a mean score of 4.89 (SD = 0.36). Likewise, a group mean of 4.79 (SD = 0.48) indicated that students agreed that the college classes made them more confident of college success. Students also responded positively to the variable of having a greater interest in attending school because of the advanced classes, showing a group mean of 4.57 (SD = 0.62). Table 6 indicates the number of respondents, the range of responses, and the mean and standard deviation.

Table 6

Student Perception of College Preparation Benefit of Program (N = 63)

	M	SD	Maximum	Maximum
Advanced classes helped to prepare me for college	4.89	0.36	3	5
Advanced classes made me more confident of college success	4.79	0.48	3	5
I had a greater interest in attending school because of the advanced classes	4.57	0.62	3	5

In addition, 100% of the respondents indicated that they agreed or strongly agreed that they considered the dual enrollment classes to be a positive experience.

Twenty-eight (28) of the 29 dual enrollment participants graduating from high school in the 2005-2006 school year matriculated into post-secondary education. This is a 97% successful transition from high school to collegial setting.

CHAPTER FIVE

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

Introduction

The purpose of this study was to examine and evaluate the efficacy of the Morehead State University sponsored dual enrollment pilot project at Pike Central High School in rural eastern Kentucky. Five research questions were investigated in this descriptive study. A descriptive survey was used to collect data related to academic attitudes and behaviors, parent/guardian attitudes toward education, financial issues, program evaluation, along with demographic information. Five open response items were presented to allow the participants to provide an appraisal of the dual enrollment program.

Summary

Approximately ninety-four percent (94.03%) of participants completed the survey that was used to collect demographic information and to evaluate the program. Frequencies, percentages, means, and standard deviations were calculated for participant responses to the survey. A discussion related to the five research questions follows.

What are the demographics of the participants of the dual enrollment project?

The dual enrollment program offered by Morehead State University at a single high school in eastern Kentucky had 67 junior and senior student over two academic school years. Six students participated in both years of the project. The number of female students (44) that participated in the dual enrollment project was more than

twice the number of male students (19). This ratio (2.32 female to 1 male student) is better than the ratio of female to male students reported by the National Center for Education Statistics for the fall enrollment in 2004 (NCES, 2004). That ratio was 1.35 female to 1 male students.

In the 2005-2006 school year, 35 students participated in the dual enrollment project. Less than 15 students participated in the Advanced Placement (AP) classes at Pike Central according to the data available at www.schoolmatters.com for the 2004-2005 school year. Students participating in the dual enrollment courses outnumber the number of students taking AP courses at Pike Central High School. The fact that the number of students participating in the dual enrollment project outnumbered by more than two times the enrollment in the AP courses is evidence of the success of the dual enrollment project. According to several students, "The dual enrollment was free! This is a great program.", and "I recommended this program to my friends that could handle the classes. It was a great way of getting college credit and high school credit at the same time."

What are some of the academic attitudes of the dual enrollment participants?

Based upon the responses to the survey section that dealt with the participants' academic attitudes, the mean score for each statement reported in Table 2 indicated that students believed education was an important commodity in their life and for their future. Students reported that completing college is a high priority. As one student commented, "The program has helped me become more responsible and better prepared for college. I now realize the difficulty of certain classes, and I have

learned how important studying is." Preventing potential dropouts is one problem the dual enrollment might be able to address. Whitbourne (2002) reported that one of the six reasons students drop out of college is being academically unprepared. Whitbourne noted that although student "may have gotten great grades in high school, college can be much more demanding" (p. 3). Being prepared for college requires students to adjust their study skills, to exert more effort, and to manage their time appropriately. Comments from the participants indicated that the dual enrollment project provided opportunities for self-assessment of the student's strengthens and weaknesses.

Successful completion of post-secondary education is dependent upon good study skills and being able to survive within a college environment. One student wrote, "The college-like atmosphere [of the dual enrollment project] ... gave me a taste of how demanding college is going to be." Another student pointed out one element for success that many college students tend to ignore, "... It [the project] gave me a sense of responsibility because I had to be in class and had deadlines to meet."

Are there differences in academic attitudes by gender?

For those students participating in the dual enrollment course, there appears to be a common importance placed on the academics. While the data indicated a statistically significant difference between genders on the academic attitude index, students equally place a high level of value on obtaining a high quality education. The

practical meaning that could be applied to the results is that both males and females placed the same degree of significance on the academics.

Are financial considerations perceived by students as a barrier to education?

According to a survey conducted in the 4th quarter of 2006, 38% of the four year college undergrads indicated that financial pressures were the reason they dropped out of college (http:www.duck9.com/College-Student-Drop-Out-Rates.htm). Whitbourne (2002) also listed the cost of a college education as being one of the reasons for students to become dropouts. The concern of being able to support the increasing costs associated with post secondary education is a concern of many students. For the students participating in the dual enrollment project, there were no costs. Tuition was waived, textbooks were provided by the local district, and there were no costs associated with housing and meals. According to survey results, 73% of the students indicated that they would need to receive a scholarship or financial aid to be able to attend college. In addition, approximately sixty-five percent (65.1%) of the respondents reported that their parents or guardians had not saved any money for their child's college education. The other option to pay for the costs for a college education is to borrow money. Twenty-seven students (42.9%) indicated that they would have to borrow money.

In regard to the dual enrollment project, fourteen students indicated that the greatest strength of the project was the free college credit they received. One student noted, "It (the project) gives students an advantage -- some who normally couldn't afford a college class the opportunity to get ahead." Another student noted that the

best element of the dual enrollment project was that "it provides free general studies classes to students, [some] who may not be able to afford them. It's an awesome thing!!"

Do dual enrollment participants perceive that the program can assist in preparing them for matriculation into postsecondary education?

These statistics indicated that participants perceive the pilot dual enrollment program as beneficial in preparation for matriculation into post secondary education. Project participants responded positively to the concept of challenging course work. Seventy-three percent of the students indicated that they would have to receive a scholarship or financial aid in order to attend college; however, students did not perceive that their parents/guardians had saved money for expenses and only 27% felt that their parents/guardians would borrow money for the expenses.

While students had many positive comments regarding the dual enrollment program, there were some expressed weaknesses to the program. Such things as the stress level of the courses, criteria for enrollment into the program, ACT requirements, amount of work required, and lack of a college environment. One important weakness stated by a few students was that "some teachers were not ready to teach these classes." Several students, however, commented that they perceived no weaknesses to the dual enrollment project.

Conclusion

This study was limited to the students who participated in one project at one school; further, this study was done at the mid-point of the pilot project. Certainly, an

evaluation of the program would need to be done at the end of the project and general conclusions cannot be made on the basis of one study at one school. However, in showing the perceptions of the students and the high percentage of students matriculating into post secondary education from this project, it can be argued that students do respond positively to the increased rigors of a dual enrollment program and could provide the foundation for the recommendation of the continuation of this project and the implementation of other similar programs.

Overall, 100% of the 63 participants responding to the survey indicated the dual enrollment classes had been a positive experience. Not only did students have the opportunity to gain college credit, but also to gain the experience of how college courses are conducted. "Attending these classes has really stabled my future and it is a wonderful investment for anyone. Other schools should have this program." As one student stated, "Dual enrollment was a tremendous experience for me. You'd be proud of how well I'm doing at MSU!"

Recommendations

This study was limited to a single high school in the first two years of a four-year dual enrollment project. Further investigations should be conducted to examine the strengths and weaknesses of offering dual credit courses to high school students. The survey only exacted participation from the students; no information was obtained from parents or teaching staff. Obtaining data from these two groups might offer additional insight on ways to improve the project.

One goal of the dual enrollment project was to provide students with the opportunity to experience the academic requirements of college courses. A follow-up survey of those students that participated in the initial project in two or three years would provide information regarding the impact the project had on post secondary success, or lack thereof.

APPENDIX

ADVANCED PLACEMENT/DUAL ENROLLMENT SURVEY

As a participant in Advanced Placement and/or Dual Enrollment program(s), your opinions are very important. Completion of this survey will assist in an evaluation of the advanced placement or dual enrollment courses that were offered at Pike Central High School. Although greatly appreciated, your response is completely voluntary. No personally identifying information is requested or needed and your responses will be kept completely confidential and will be used with other students' responses to help improve these programs. Thank you for taking time to assist in this survey.

I participated in: _____**AP** _____**Dual Enrollment** _____**Both**

I am: _____**Male** _____**Female**

My age is: _____

Student Status: **Which of the following categories best describes your current student status? (Select one)**	**YES**	**NO**
I am currently attending high school.		
I applied to a college/university, but was not accepted.		
I was accepted to a college/university, but am not attending.		
I am currently attending college/university.		

Academic Attitudes & Behaviors	**SD**	**D**	**U**	**A**	**SA**
I believe that education is essential for my future success.					
I like school work that is challenging.					
I am committed to completing college.					
Getting good grades is important to me.					
I work hard to achieve good grades.					
I rarely miss school/classes.					
I usually finish homework by the time that it is due.					
I put forth more effort into studies than my peers.					
I can motivate myself to do school work.					
I have made a specific career choice.					

Parental/Guardian Attitudes	**Yes**	**No**	**Uncertain**
My parents/guardians believe that a college education is important to my future.			
My parents/guardians expect me to perform at high levels academically.			
My parents/guardians reward me for attaining good grades.			
Neither of my parents/guardians graduated from college.			

Financial Issues	Yes	No	Uncertain
My parents/guardians have saved money for my college education.			
I have to receive a scholarship or financial aid in order to attend college.			
I, or my parents/guardians, will have to borrow money in order for me to attend college.			
I am now receiving state or federal financial aid to attend college.			
I am now receiving a scholarship to attend college.			

Program Evaluation	SD	D	U	A	SA
When I enrolled, I felt that I could successfully complete the AP/Dual Enrollment classes.					
AP/Dual Enrollment classes helped to prepare me for college.					
AP/Dual Enrollment classes have been a good experience for me.					
Completing the AP/Dual Enrollment classes made me more confident of college success.					
The AP/Dual Enrollment classes were challenging.					
The AP/Dual Enrollment classes were interesting.					
I received quality instruction in my AP/Dual Enrollment classes.					
I had a greater interest in attending school because of the AP/Dual Enrollment classes.					
The administration of the AP/Dual Enrollment classes eased my entry and completion of those classes.					
My AP/Dual Enrollment instructors were concerned about my success in the program(s).					
Overall, the AP/Dual Enrollment classes were a positive experience for me.					

What was the best element or aspect of the AP/Dual Enrollment program?

What was the program's greatest weakness?

What was the program's greatest strength?

Would you recommend this program to your friends?

Please use this space for any additional comments that you would like to make regarding your Advanced Placement or Dual Enrollment experience:

REFERENCES

Adelman, C. (1999). Answers in the tool box: Academic intensity, attendance patterns, and bachelor's degree attainment. Jessup, MD: U.S. Department of Education. (ERIC Document Reproduction No. ED 431 363).

Andrews, H.A. (2001). *The dual credit phenomenon: Challenging secondary school students across 50 states.* Stillwater, OK: New Forums Press.

Andrews, H.A. (2004). Dual credit research outcomes for students. *Community College Journal of Research and Practice, 28*, 415-422.

Andrews, H.A., & Davis, J. (2003). When high school is not enough. *American School Board Journal, 8*, 38-39.

Bailey, T. & Karp, M.M. (2003). Promoting college access and success: A review of credit based transition programs. *Community College Research Center, 6*, 7-45.

Bailey, T., & Karp, M. (2004). Expanding the reach of dual-enrollment programs. *Community College Journal, 24*, 8-11.

Bailey, T.R., Hughes, K.L., & Karp, M.M. (2002). What role can dual enrollment programs play in easing the transitions between high school and postsecondary education? *In Preparing Americas Future: The High School Symposium.* Symposium conducted at meeting Vocational and Adult Education, Washington,D.C.

Bailey, T.R., Hughes, K.L., & Karp, M.M. (2003). Dual enrollment programs: Easing transitions from high school to college. *Community College Research Center Brief, 17*, 3-6.

Barnett, D., & Bowling, L. (2006). High school/ KCTCS/ University partnership-Where students are the winners. *Kentucky School Leader, 5*, 13-16.

Chmelyivshi, C. (2004). "Early college" high school jump-starts higher learning. *Education Digest. 69*(7), 57-60.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Earlbaum Associates.

Duffy, D. (2002). Postsecondary enrollment opportunities for high school juniors and seniors: A foundation for creating a seamless high school to college transistion. *State Policy Briefing, 1*(2), 2-44.

Hebert, L. (2001). A comparison of learning outcomes for dual enrollment mathematics students taught by high school teachers versus college faculty. *Community CollegeReview, 29*(3), 22-39.

Hoffman, N. (2003). College credit in high school: Increasing college attainment rates for underrepresented students. *Change, 4*, 26-29.

Hoffman, N. & Robbins, A. (2005). Head start on college: Dual enrollment strategies in New England 2004-2005. Boston: Jobs for the Future.

James, T. (2002). The open door...assessing the promise and problems of dual enrollment. *American Association of State Colleges and Universities, 1*(1), 3-12.

Karp, M.M., Bailey, T.R., Hughes, K.L., & Fermin, B.J. (2005). State dual enrollment policies: Addressing access and quality. *Community College Research Center Brief, 26*, 1-4.

Kentucky Council on Postsecondary Education (2006). *The dual enrollment of high school students in postsecondary education in Kentucky, 2001-02.* Frankfort, KY.

Kirst, M.W. (2001). Overcoming the high school senior slump: New education policies. Washington, DC: The Institute for Educational Leadership. ERIC Document Reproduction No. ED 455 720.

Kleiman, N.S., (2001). Building a highway to higher ed: How collaborative efforts are changing education in America. New York: The Center for an Urbane Future.

Kleiner, B., and Lewis, L. (2005). *Dual enrollment of high school students at postsecondary institutions: 2002-03* (NCES 2005-2006). U.S. Department of Education. Washington, DC: National Center for Education Statistics.

Lords, E. (2000). New effort at community colleges focus on underachieving teens. *The Chronicle of Higher Education, June 30, 2000, A45.*

Marshall, R.P., & Andrews, H.A. (2002). Dual credit outcomes: A second visit. *Community College Journal of Research and Practice, 26*, 237-242.

McCarthy, C.R. (1999). Dual enrollment programs: Legislation helps high school students enroll in college courses. *Journal of Secondary Gifted Education, 11*(1), 24-32.

NCES (2005). *Dual Credit and Exam-Based Courses in U.S. Public High Schools 2002-03.* Washington, DC: National Center for Education Statistics.

Plucker, J.A., Chien, R.W., & Zaman, K. (2006). Enriching the high school curriculum through postsecondary credit-based transition programs. *Center for Evaluation and Education Policy Education Policy Brief, 4*(2), 1-11.

Pritchard Committee For Academic Excellence. (2005, May). *High achieving high schools.* Lexington, KY: Author.

Robertson, P.F. (2005). Dual enrollment: Spanning the border between high school and college---and reshaping the landscape of public education, *Education Week, 24*(42), 48-52.

U.S. Census Bureau (2005). *Current population survey: PINC-04.* Retrieved October 27, 2006, from http://pubdb3.census.gov/macro/032005/perine/new04_001.htm.

Welch, J.F., Brake, N., & Choi, N. (2005). Student participation and performance in dual-credit courses in a reform environment. *Community College Journal of Research and Practice, 29*, 199-213.

Whitbourne, J. (2002, March). The dropout dilemma: One in four college freshmen drop out. What is going on here? What does it take to stay in? – Special Report. Careers and Colleges. Retrieved on June 15, 2007 from http://http://findarticles.com/p/articles/mi_m0BTR/is_4_22/ai_84599442.