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**AN INVESTIGATION OF THE RELATIONSHIP BETWEEN
SELECTED DEMOGRAPHIC VARIABLES AND
DUAL ENROLLMENT PARTICIPATION
ON POSTSECONDARY SUCCESS
FOR FIRST TIME FRESHMEN**

by

Marby S. Barker, B. A., M. A.

A Dissertation Presented in Partial Fulfillment
of the Requirements for the Degree
Doctor of Education in Educational Leadership

COLLEGE OF EDUCATION
LOUISIANA TECH UNIVERSITY

March 2010

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Date

We hereby recommend that the dissertation prepared under our supervision
by Marby S. Barker

entitled An Investigation of the Relationship Between Selected Demographic Variables
and Dual Enrollment Participation On Postsecondary Success for First Time
Freshmen

be accepted in partial fulfillment of the requirements for the Degree of
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ABSTRACT

This study examined the relationship between dual enrollment participation in high school and successful transition to post-secondary institutions for first year students. The sample consisted of a random sample of first-time students enrolled at four-year, two-year, and technical colleges in North Louisiana.

Participants completed the National Alliance of Concurrent Enrollment Partnerships First Year Out Student Survey. The results were analyzed based on characteristics such as ethnicity, gender, socio-economic status, School Performance Scores (SPS) of high school attended, ACT scores, high school cumulative grade point average, first term postsecondary grade point average, and type of postsecondary institutions selected by dual enrollment participants. Students rated experiences in dual enrollment programs for skill improvement in writing, speaking, and study skills, as well as academic preparedness, realistic expectations, and confidence levels.

Postsecondary first term grade point averages were utilized as a measure of academic preparedness and successful transition from high school to postsecondary program.

The data was analyzed using a one-way Analysis of Variance (ANOVA). A step-wise multiple regression was performed in order to identify the most influential factors in student success. Variables found to have significant relationships to first-term grade point averages were high school cumulative grade point average, ACT score, and type of postsecondary institution selected. An inverse relationship was discovered to exist with student self-reported ratings of improvement of study skills. Other identified

variables did not produce significant results in relation to first-term postsecondary success.

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Author Marby S. Barker

Date 02/04/2010

DEDICATION

The process of bringing a research project into a completed dissertation involved many people in my life who have nurtured my goals and aspiration. My husband, Randy, supported me and encouraged me throughout the entire process. He sacrificed countless hours so I could achieve my dream. I am grateful for his love, support, and willingness to attend to my endless chatter about the process. He had unwavering faith in me even when my self-confidence faltered.

My children, Robby, Amanda, and Holly, reciprocated the high expectations for success that were set for them. Blended with their expectations was a heaping portion of encouragement that they interjected just when I most needed it. I'm so proud of each of them for the lives they have chosen. Their happiness is my greatest reward.

My mother provided the best example of what a parent should be and how a caring professional educator lives. She not only gave me life, but also the passion to improve the lives of the students I influence daily.

My major professor, Dr. Carrice Cummins, believed in me and supported me above and beyond all expectations. She has guided me through this process with caring and unyielding support.

My extended family at the Louisiana Tech University Department of Curriculum, Instruction, and Leadership welcomed me into the professional ranks of postsecondary education and treated me as a colleague and a friend. I will forever

fondly remember the year that I spent immersed in professional discourse and academic nurturing.

Above all else, thanks to God for allowing me to see my vision become my reality. With Him, all things are possible.

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CHAPTER I

STATEMENT OF THE PROBLEM

High school reform is being mandated through federal legislation and encouraged by state financial incentives. The No Child Left Behind Act of 2001 has created a sense of urgency as schools attempt to meet accountability standards. In an effort to implement programs that will provide schools with the mechanisms to reach mandated standards, states are searching for methods to increase student achievement. High schools within the state of Louisiana are being encouraged to utilize high school reform as a strategy to create schools that prepare students to successfully enter postsecondary programs and the workforce.

One component of the high school redesign movement that has captured the attention of Louisiana policy makers and educational leaders is dual enrollment participation (Louisiana High School Redesign Commission Report, 2006). Dual enrollment programs are designed to provide opportunities for high school students to earn college credit and high school credit simultaneously for courses that meet the standards of academic rigor of a college course. Dual enrollment participation in Louisiana has expanded exponentially over the past three years, partially due to the financial incentivizing programs that have been implemented. As educational funding increasingly shrinks, the importance of program evaluation becomes apparent. Although

five million dollars was appropriated during the 2008-2009 school year to fund tuition payments for dual enrollment participants (Louisiana Office of Student Financial Assistance, 2009), no data analysis has been conducted to determine the types of student benefitting from the program or the relationship between program participation and postsecondary success.

High schools of today are being commissioned with preparing the youth of the nation for the workforce of tomorrow utilizing the curriculum design of the past (Wise, 2008). National attention has been focused on the critical occurrence of students dropping out of high schools as well as the highly-documented concern that students are ill-prepared for postsecondary level rigor upon satisfactorily completing the requirements for high school graduation.

Dual enrollment courses have been suggested as an avenue to decrease the numbers of students who are leaving high school without the pre-requisite skills to gain and retain employment (Louisiana High School Redesign Commission, 2006). Courses include not only the academic rigor that generate development of necessary study skills, but also increase student motivation and engagement through their relevance to an identified career goal of postsecondary degree or certificate attainment.

Student attrition studies accentuate the lack of relevance of the high school curriculum which pushes at-risk students to withdraw from high school without a diploma (Wehlage, 1986). Postsecondary programs mirror the rates of attrition that secondary schools report. Business and industry surveys as well as postsecondary input document the lack of academic and social skills of recent high school graduates.

In the current era of fiscal accountability, evaluation of program effectiveness supports continuation of current methods of operation or identifies areas in need of

revision or removal. The dual enrollment concept has been popularized by the cost-effectiveness of earning college credits prior to enrolling at the institution and the increased rigor of the high school curriculum provided through post-secondary level coursework. The Running Start dual enrollment program at the University of Washington was found to save taxpayers and parents 37.12 million dollars during the 1999-2000 fiscal year (Anderson, 2004).

National attention has been brought to the phenomenon of high school students relaxing academic rigor during the senior year as a rite of passage. The United States Department of Education created a commission to study this issue and develop recommendations to redirect students' academic engagement. Citing concerns of the lack of rigor during the senior year of high school, the National Commission on the High School Senior Year of 2001 described their analysis of the detachment of academic engagement during the final year of high school. The commission concluded that students, parents, and school personnel share responsibility in the mismanagement of the senior year of high school:

There is little sense of the final year as a time to strengthen skills, enhance preparation for postsecondary programs, broaden experiences to include service or demanding work-based learning, or culminate earlier classroom experience in a senior project. In fairness to students and their parents, many high school faculty and administrators share these attitudes. (Woodrow Wilson National Fellowship Foundation, 2001, p. 28)

According to the Third International Mathematics and Science Study (1995) most 17-year-olds in other participating countries were enrolled in college preparatory math and science courses, compared to only one-third of seniors in the United States.

American high school seniors self-reported spending fewer hours on homework and triple the number of hours working than their international counterparts. Course taking patterns, frequency of independent study, and time management decisions affect the global competitiveness of the American high school student. Dual enrollment course participation increases the academic rigor of courses taken during high school and enhances student preparedness for postsecondary curriculum.

Dual enrollment proponents suggest that benefits extend beyond the program participants to include additional stakeholders such as parents, high schools, and postsecondary institutions. Benefits cited for increasing dual enrollment opportunities are numerous: (a) reducing college tuition costs, (b) making space at participating universities to accommodate increasing enrollment, (c) providing academically challenging curriculum for high school students, (d) creating enhanced collaboration between high school and post-secondary faculties, (e) allowing seamless transitions for students, (f) encouraging greater numbers of students to attend college, (g) developing increased opportunities for rural students, and (h) fostering ties between post-secondary institutions and the communities they serve (Boswell, 2001). Research conducted by the Education Commission of the States (ECS) listed similar benefits and confirms the research of Boswell. The ECS Center for Community College Policy identified the following factors as benefits of dual enrollment programs: (a) to promote rigorous academics and to provide more educational options; (b) to save students time and money on a college degree; (c) to encourage competition from colleges and universities which, in turn, prompt secondary schools to be more responsive to students and parents needs; (d) to accelerate student progress toward a degree in order to free up additional space on campus to meet the increased demands for college access by the children of

the “baby boom” generation; (f) to provide greater academic opportunities for students at small rural schools; (g) to enable greater collaboration between high school and college faculty; (h) to increase student aspirations to go to college; and (i) to build closer ties between colleges and their communities (Education Commission of the States, 2001).

Based on the extensive benefits afforded students through dual enrollment participation, analysis of gender, ethnic, and socioeconomic levels of participants is an avenue to determine the equity of program involvement (Hoffman, Vargas, & Santos, 2008). Institutional variables, such as the school performance score, type of postsecondary program selected by students, and the participants’ evaluation of the quality of the dual enrollment program can provide insight into the level of consistency in program implementation. Student academic performance variables such as ACT composite scores and high school grade point average will be analyzed to determine the correlation to academic success in the postsecondary environment.

Purpose of the Study

The purpose of this study is to examine the relationship between the variables of gender, ethnicity, socioeconomic status, ACT composite scores, and high school composite grade point average of dual enrollment participants and the school performance scores of participants’ high schools, choice of types of postsecondary institutions, and participant ratings of dual enrollment program quality on the postsecondary success of first year freshman students. The study is designed to determine if the school performance score of the high school affects the dual enrollment participant performance in postsecondary institutions as well as their perceptions of

dual enrollment effectiveness in diminishing the negative effects of the transition process. An anticipated outcome of the study will be to determine which types of students are receiving the most benefit from dual enrollment participation and to identify the degree to which traditionally underserved segments of the population are fully participating in the dual enrollment program. An additional outcome of the study will be to guide future dual enrollment policy at the state level based on the participant self-assessment of program effectiveness as well as their reported academic success in postsecondary programs.

Justification for the Study

In 2006, the Western Interstate Commission for Higher Education (WICHE) conducted an audit of accelerated-learning programs, inclusive of concurrent enrollment courses which revealed that data sets providing state-by-state information describing program trends, strengths, and weaknesses is non-existent (Klein, 2001). The WICHE report, “Moving the Needle of Access and Success” (2006) reveals the need for improved data collection:

While a number of states gather information on accelerated learning programs, that information is rarely collected and disaggregated in a manner that allows for analysis by income level. Absent that kind of detail, it is impossible to know the extent to which low-income students benefit from these opportunities. To complement state-level assessments of accelerated learning programs, comprehensive evidence-based research is needed to determine if there is a causal relationship between participation in accelerated learning courses and access to and success in college. Research on accelerated options should be

particularly attentive to how patterns of participation and related outcomes differ, based on income and race/ethnicity. (WICHE Report, p. 87)

The lack of data as well as the resulting void of program evaluation to determine consistency and quality of instruction is a concern to higher education officials charged with determination of credit transferability as well as legislators who control economic subsidies to continue or increase these programs. The Community College Research Center policy brief (Bailey, Hughes, and Karp, 2003) noted that “the federal government, through a coherent and well-designed program of innovation and assessment, has an opportunity to shape and guide a movement that is growing rapidly yet so far lacks a solid basis on which educators and legislators can make decisions about design, size, and targeting” (p. 3). Additional recommendations for further research from the policy brief include: (a) gathering information on the size and characteristics of current dual enrollment programs, (b) examining the course content taught in these programs, developing more precise information on types of students served in dual enrollment programs, (c) devising a clearer explanation of how dual enrollment programs can serve middle and lower achieving students, (d) producing methodologically sound evaluations of programs, and (e) conducting research defining the impact of different program models on student success (Bailey, et. al, 2003).

Andrews and Marshall (2002) recommended additional follow-up research be conducted to investigate the quality of dual enrollment programs as well as the human impact on students. Research variables that can illuminate the characteristics that enhance or impede student success have been suggested by educational researchers. Hoffman (2003) identified three areas of research to guide educational leaders and policy makers: (a) additional data that focuses on student demographics and

achievement to verify and extend the positive outcomes of currently operating programs, (b) analysis of equity of access for traditionally underrepresented student populations, and (c) policy analysis to identify and correct current barriers between high schools and colleges. According to Hoffman (2003), more than 20% of states currently follow or plan to adopt a policy to provide dual enrollment opportunities or require dual enrollment course completion for all students graduating from public high schools.

A review of credit-based transition programs sponsored by The United States Department of Education Office of Vocational Education (Bailey, et. al, 2003) has recommended that more comprehensive and reliable data be collected to determine the characteristics of dual enrollment programs and descriptors of the types of students who participate in these programs. An additional point of concern is the lack of methodologically sound research evaluating program outcomes and features that impact participant transitions into postsecondary programs. Karp, Calcagno, Hughes, Jeong, and Bailey (2007) noted similar deficits in the research of dual enrollment programs. Karp et.al criticized the available studies for the lack of a comprehensive K-12 data system to access data for analysis and the absence of statistical methodology designed to control for pre-existing student conditions.

Much of the existing research has been conducted by the participating programs and tends to emphasize positive outcomes (Catron, 2001; Farrell & Seifart, 2007; Hebert, 2001; Hugo, 2001; Jordan, 2001; Watt, Powell, & Mendiola, 2004). While student participation surveys validate that students enjoy dual enrollment courses as useful and motivational, most programs restrict enrollment to academically successful students who would be more likely to express satisfaction with challenging academic coursework (Bailey, Hughes, & Karp, 2003).

Based on a review of literature of dual enrollment program research, Bailey, Hughes, and Karp (2003) hypothesized that this area of study is in an infancy stage. Of the 45 research articles and comprehensive reports, only 21 studies discussed program outcomes. These outcomes did not address influential factors such as student characteristics, motivation, or prior academic achievement. The remaining twenty-four studies were descriptive or qualitative in form, focusing on student and parent surveys about their experiences with the dual enrollment program.

Research documenting the success of the Louisiana Early Start college tuition program funded by the Louisiana Board of Regents is limited. Documented success of dual enrollment programs in Louisiana, including factors that contribute to post-secondary success of participants has not been addressed in current research. Identification of such factors will contribute to legislative decision-making processes as determinations are made to continue or revise current levels of funding for such programs.

National research identifies lack of equity in access of programs for qualified students due to geographic boundaries, socio-economic backgrounds, and racial composites of the high school attended. Hoffman (2003) recommended that equity of access to dual enrollment programs that focuses on options for underrepresented populations is an area of research that requires further study. Additional data collected from Louisiana students supplements the current analysis compiled by other states participating in dual enrollment programs. Louisiana local school districts can utilize results from this study as a comparative measure for program availability and effectiveness in their programs. Universities within the state can utilize the results to strengthen the levels of participation in dual enrollment and to target underserved

subgroups of the student population as well as identify non-traditional types of students to consider as potential recruitment targets.

Theoretical Framework

A combination of theoretical frameworks was reviewed as a basis for understanding the support systems that affect student success in the postsecondary institution. Tinto (1975) is credited with the initial development of a theoretical framework describing the process of postsecondary withdrawal based on a lack of student support mechanisms. As Tinto continued his research in this area, he developed a model of institutional departure (Tinto, 1993). Concurrent to this development, Astin (1993) formalized a framework that addressed student transition and integration into postsecondary programs based on an institutional model of input, environment, and output of the process of student acclimation. Karp (2005) extended these ideas into a conceptual model of influence describing how credit-based transition programs affect students' access and success in the postsecondary environment.

Tinto's Model of Institutional Departure

Tinto is credited with a theoretical framework that has been utilized in the development of student support and transition services at the postsecondary level. Tinto (1993) addresses the factors that predicate student resignation from postsecondary programs. The conceptual model (Figure 1) represents the process of institutional departure based upon the interactions between the student and the academic as well as social institutions of the postsecondary program. Postsecondary programs utilize the model to enhance the academic and social environment of the institution as a tool to

increase student retention. These factors can be applied in the context of dual enrollment participation as well.

Each student enters a postsecondary program with a range of familial and community backgrounds, a variety of personal attributes such as ethnicity and gender, unique academic and social skills, an array of dispositions such as motivation and intellectual preferences, and an assortment of precollege educational experiences and achievement. Intentions and commitments to goal attainment, in partnership with skills and dispositions, comprise the resources that students bring with them to postsecondary programs (Tinto, 1993).

Dual enrollment participation directly affects the skills and dispositions of students. Integration of college-level rigor and development of a college going culture within the dual enrollment course enhances the level of prior schooling as well as the social and academic skills that participants possess at postsecondary enrollment. Collaboration between secondary and postsecondary faculty increase the likelihood that the dual enrollment experience will closely simulate the postsecondary academic environment. Students transition from secondary to postsecondary with fewer adjustment issues.

Freshman orientation and transition programs have been instituted at postsecondary institutions as a result of the difficulties that first time freshman acknowledge. Therefore, dual enrollment participation can be viewed as altering the pre-entry attributes of Tinto's model of Institutional Departure (1993).

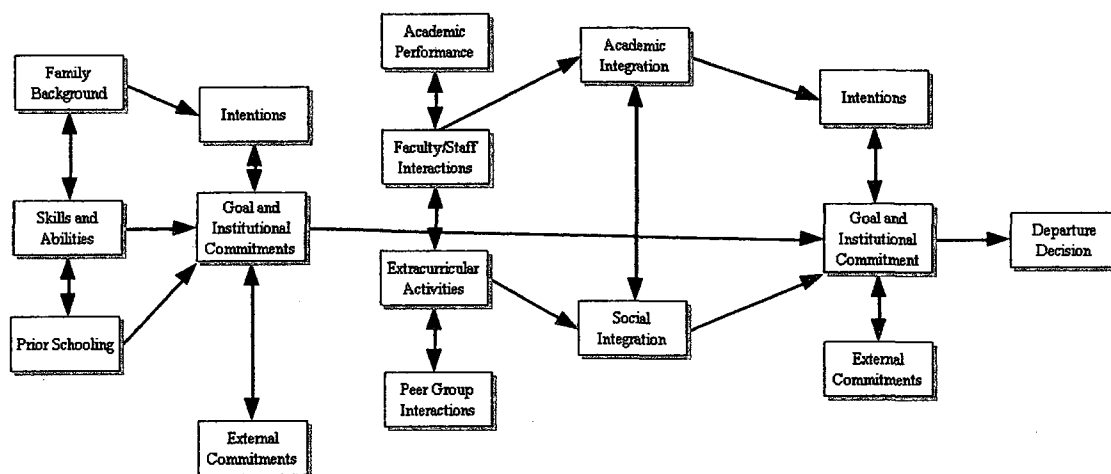


Figure 1. Tinto's Model of Institutional Departure

Astin's Student Integration Model

Astin's Student Integration model also referred to as the Input-Environment-Outcome model, is also applicable to dual enrollment student participation. Astin has developed a framework for developing educational assessment and evaluation activities that incorporate student inputs (I), the educational environment (E), and student outcomes (O). Student characteristics upon entry into the program, student involvement during the program, and assessment processes following program completion are the focus of the three elements of student integration. The intensity and quality of interactions between the student and the faculty as well as the peer group are credited as highly influential upon the college experience. These interactions either positively or negatively impact student success and program retention (Astin, 1993).

Inputs (I) refer to "those personal qualities the student brings initially to the educational program (including the student's level of developed talent at the time of entry" (Astin, 1993, p. 18). Standardized test results such as ACT scores serve as measure of pre-program performance. Demographic data is input data which directly

influence both the environment and outputs (Astin, 1993). Input for Louisiana public high school dual enrollment participants includes nationally norm-referenced test results such as PLAN and ACT scores which are required by the Louisiana Office of Student Financial Assistance (LOFSA) for tuition payment through the Louisiana Early Start program.

Environment (E) “refers to the student’s actual experiences during the educational program” (Astin, 1993, p. 19). Program participation and benefits derived through this experience are identified and measured to link input to outcome variables.

Outputs (O) refer to “the talents we are trying to develop in our educational program” (Astin, 1993, p. 21). Educational output can be measured through academic success as defined by course outcome in the form of end of course grades and applicability to degree program.

In the context of dual enrollment, the input variables are identified as student entry characteristics which include demographic data, socioeconomic status, grade point average, and ACT score. Students enter dual enrollment programs with previously established characteristics which can affect academic performance.

The environmental factors that contribute to student success include the culture and academic rigor of the high school, the academic and social support system, and self-reported student satisfaction with the program. Individual schools influence students within their program based on the mission and focus of the academic instructional agenda.

The output variables that support the dual enrollment concept are the first term grade point average, academic skills development, and application of dual enrollment credits to degree program. Students entering postsecondary programs continue to

experience the influence of the secondary programs attended. Postsecondary transition can be positively impacted by rigorous curriculum exposure and numerous opportunities to earn postsecondary credit or negatively impacted by the absence of dual enrollment programs and weak alignment of high school to postsecondary curriculum.

The Student Integration model can provide a framework to demonstrate the relationship between students’ postsecondary success and the supportive environment of the high school programs prior to postsecondary enrollment.

Figure 2 exemplifies the process of dual enrollment participation to the IEO variables of Astin’s Student Integration Model.

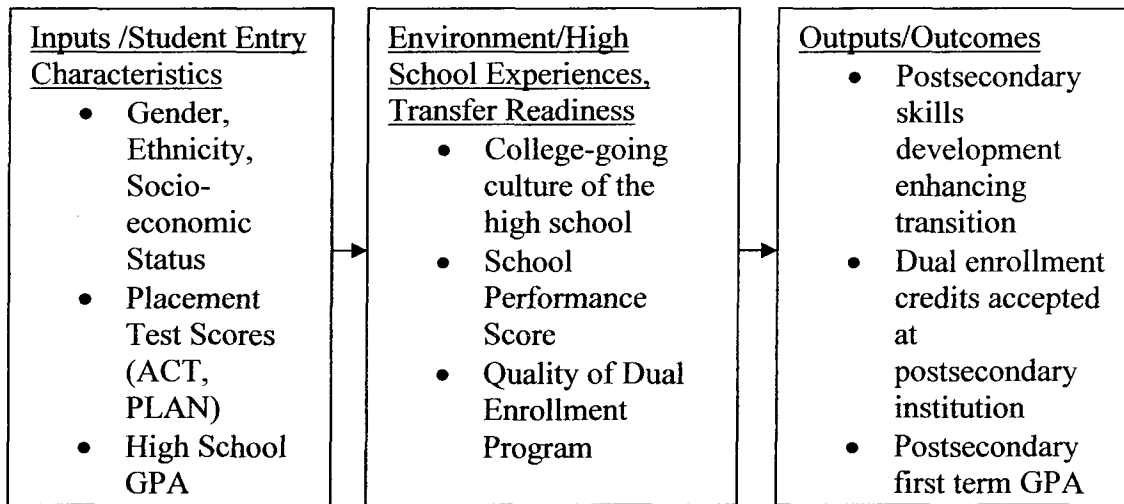


Figure 2. Student Integration Model Application to Louisiana Early Start Participation

Influence of Credit-Based Transition Programs

The conceptual model of Influence of Credit-based Transition Programs on Student Access to and Success in Postsecondary Education (Karp, 2005) further clarifies the appropriate pre-requisite skills of dual enrollment participants as well as the institutional supports necessary to facilitate a seamless and successful transition into

postsecondary programs. Student participant skills coupled with secondary programs with highly supportive environments create an opportunity for maximum program effectiveness.

The visual representation of the model shown in Figure 3 indicates the prerequisite social skills evidenced by student motivation and academic skills such as content mastery that allow students to fully engage in dual enrollment benefits.

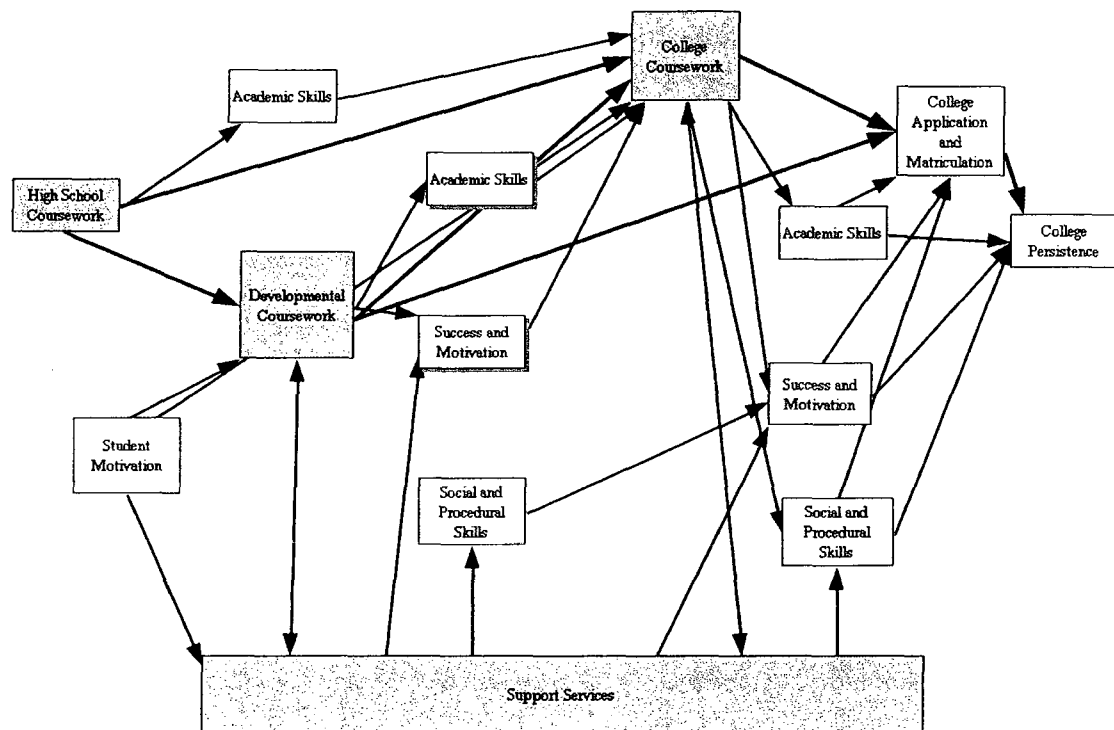


Figure 3. Influence of CBTPs on Student Access and Success in Postsecondary Education

Program elements contained in credit-based transition programs (CBTPs) are indicated by solid shading on the diagram. The desired outcomes of the program include elements such as college persistence, college application, and matriculation through the postsecondary program selected. The arrows are representative of student

movement through the program. Multiple arrows that lead from program element to element demonstrate that students move through the program in different sequences dependent upon individual academic and social needs.

The program elements are arranged to provide students with clearly defined curricular pathways. These pathways simultaneously prepare students for academic rigor and introduce them to the expectations for attaining postsecondary status.

The clear boxes contain the intermediate outcomes of dual-enrollment participation. These outcomes can be attained in credit-bearing courses or developmental courses that are designed to instill academic skills and motivation necessary for successful transition into postsecondary programs.

The box across the bottom of the model represents an array of support services that may be present in CBTPs. These supports are critical to assist students, particularly the middle to lower achieving groups, to succeed in current and future programs that contain college-level academic rigor. The relationship between support services and college coursework is symbiotic in nature. Adequate support services enable student success in courses and course participation delineates the relevance of utilizing support services. An added benefit of support services is the realization of dual enrollment participants that social and procedural requirements are crucial to postsecondary success.

The model visually represents the concept of CBTPs that include elements of academic skills with support services. Such support systems allow students to experience growth in academic, social skills, and motivation that increase the likelihood that students will not only enroll in postsecondary programs but persist to program completion.

Each of the three theoretical frameworks above contributes to the issue of dual enrollment participation as a means of increasing course rigor and successful transition to postsecondary programs for students. Tinto (1993) identified variables that contribute to student persistence or attrition at the post-secondary level. Secondary students' participation in dual enrollment can eradicate or lessen the degree of severity of attrition factors at the postsecondary level through the implementation of an adequate level of support services as described in Karp's conceptual model of Influence of Credit-based Transition Programs on Student Access to and Success in Postsecondary Education. Dual enrollment participation at the secondary level also increases the likelihood of student involvement in postsecondary programs through the early attention to transition issues such as isolation and social independence as described in Astin's Student Integration model. Decision-making skills practiced in the dual enrollment environment prior to the transition into the postsecondary environment can be positively impacted by external support elements such as high school faculty influence and parental supervision.

Research Questions

1. Do demographic factors such as gender, ethnicity, and socioeconomic status influence postsecondary success of first-time freshmen?
2. Do the types of postsecondary institutions attended influence factors of postsecondary performance of dual enrollment graduates?
3. Does the quality of the high school attended, defined by the assigned school performance score, affect performance of dual enrollment graduates?

4. Are traditional postsecondary screening variables such as student ACT scores and cumulative high school grade point averages an accurate predictor of dual enrollment graduates' postsecondary success?
5. Does self-reported student assessment of dual enrollment programs correlate with student success in postsecondary programs?

These research questions are addressed by analyzing the relationship between demographic variables, student academic performance, institutional variables and the first term postsecondary grade point averages of participants as illustrated in Figure 4.

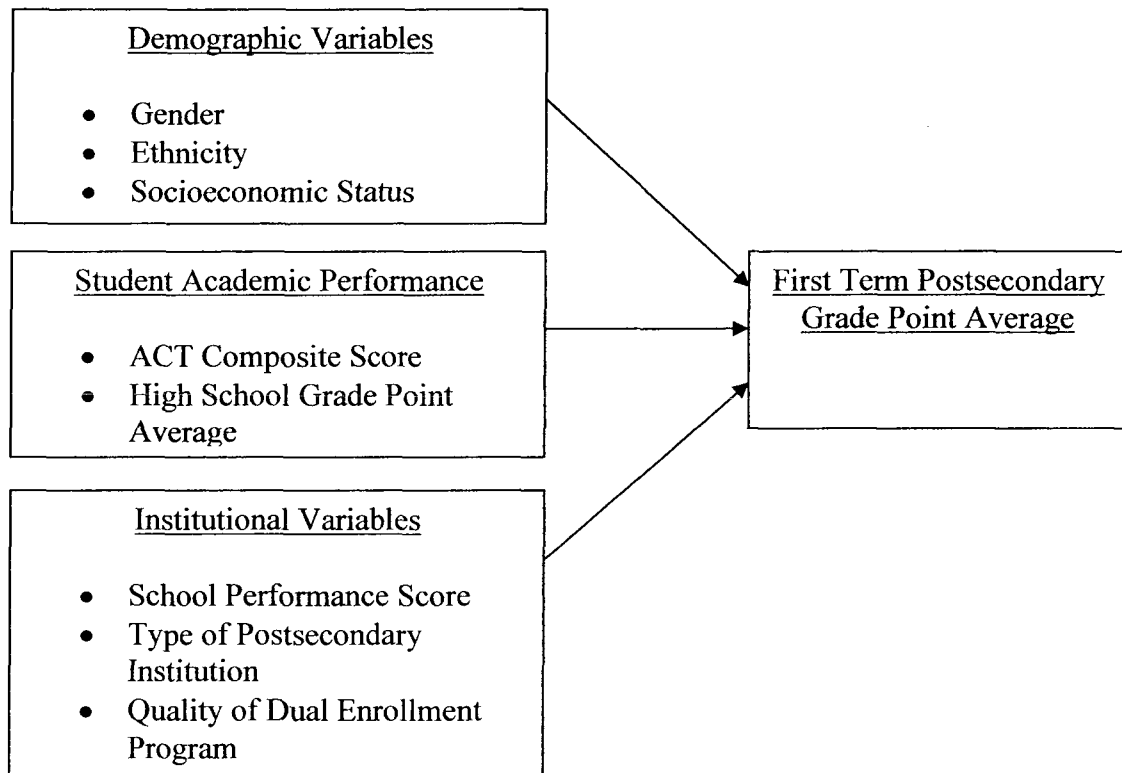


Figure 4. Interrelationship of Variables

Research Hypotheses

The following research hypotheses will be tested in this study:

1. There are statistically significant differences in the postsecondary success as measured by first term grade point averages of dual enrollment graduates between demographic variables such as gender, ethnicity, and socioeconomic status.
2. There are statistically significant differences in the postsecondary success of dual enrollment graduates between students attending four-year universities and two-year or technical postsecondary institutions.
3. There are statistically significant differences in the postsecondary success as measured by first term grade point average of dual enrollment participants between graduates of schools with SPS labels of Academically Unacceptable, Academic Warning, One Star*, Two Stars**, Three Stars***, Four Stars****, and Five Stars*****.
4. There are statistically significant differences in the postsecondary success as measured by first term grade point average of dual enrollment graduates with varying levels of secondary academic performance such as grade point average and ACT score ranges.
5. There are statistically significant differences in the postsecondary success as measured by first term grade point average of dual enrollment graduates based on self-reported levels of satisfaction and skill development attained through dual enrollment participation.

Definitions of Key Terms

1. Achieve - Created in 1996 by state governors and corporate leaders, Achieve is an independent, bipartisan, non-profit education reform

organization based in Washington, D.C. that helps states raise academic standards and graduation requirements, improve assessments, and strengthen accountability. Achieve is leading the effort to make college and career readiness a national priority so that the transition from high school graduation to postsecondary education and careers is seamless.

2. **ACT Scores** – American College Testing administers a nationally-normed assessment of academic abilities of students to determine their level of college readiness in the areas of Reading, Math, Social Studies, and English. These scores are utilized primarily by high schools to advise students in decision-making for college and career planning, as well as post-secondary institutions as a placement measure for incoming first-time students. Minimum ACT scores are required for student enrollment in the Louisiana Early Start dual enrollment program.
3. **Adjunct Faculty** – non-tenured faculty serving in a temporary or auxiliary capacity to teach specific courses on a course-by-course basis. Qualified high school teachers can serve as adjunct faculty to provide opportunities for students to earn high school and college credit simultaneously.
4. **Advanced Placement** – High school courses designed by the College Board with standardized academic rigor. College credit is earned by earning an appropriate score on the comprehensive final exam designed by the College Board.
5. **American Diploma Project** – The American Diploma Project (ADP) is an

Achieve initiative created to ensure that all students graduate from high school prepared to face the challenges of work and college. The ADP Network includes 33 states. Louisiana is a member of the ADP Network.

6. **Articulated Credit** – College credit that is accumulated prior to high school graduation. Students are required to enroll in the credit-granting institution to access the articulated credits.
7. **Career and Technical Education (CTE)** – planned course sequences of high quality academic core content and technical skills, which focus on a specific career cluster and prepare students to successfully transition toward their career goal.
8. **Concurrent Enrollment** – High school students are enrolled in college courses on the college campus for college credit and taking high school courses to complete high school graduation requirements concurrently.
9. **Dual Enrollment** – High school students are enrolled in courses that award both high school and college credit simultaneously. Dual enrollment courses are offered at the home high school campus of the student. The course instructor is a high school teacher who possesses credentials to qualify as a college instructor based on accreditation standards of the Southern Association of Colleges and Schools (SACS) or an adjunct college professor who meets the class on the high school campus.
10. **Equity of Access** – programs and opportunities to learn are extended to all subgroups of students to assure that educational performance and outcomes will be equally available. While the concept of equality refers to treating all

students in the same way, equity refers to differential treatment of groups that will equalize educational outcomes for all groups.

11. GO Grants – This grant program is a state-funded initiative that provides additional funding to assist Pell grant recipients in meeting the basic cost of attendance (COA) at Louisiana postsecondary institutions. The purpose of the program is to provide a need-based component to the state financial aid plan to support nontraditional and low to moderate-income students who need additional aid to afford the cost of attending college. The award amount ranges from \$500 to \$2,000 annually.
12. Graduation Index – A component of the Louisiana school accountability score that is computed by the academic attainment of a co-hort of students entering the ninth grade, tracking their success and assigning the high school points based on number of graduates, GED completers, academic and technical endorsement achievers, and dropouts.
13. High School Redesign – The high school redesign concept supports revising school curriculum to meet the needs of the 21st century workforce.
14. High School Reform – Redesigning the high school experience by developing new and innovative instructional methodology while redefining the nature of learning to be personalized to the prior knowledge and life experiences of the student. Changing the schedule, culture, and curriculum of the high school from the traditional focus on covering content to a more well-developed mission of individualizing instruction.
15. LA Core-4 Curriculum – Increased Louisiana graduation standards instituted with the freshman class of 2008-09 which specify 24 Carnegie units for high

school graduation including 4 units of math, 4 units of English, 4 units of science, 4 units of social studies, and 8 units of electives which include 2 units of foreign language.

16. LA ePortal – a comprehensive education and career-planning website that allows students to explore careers, develop long-term educational goals, and create/maintain personal portfolios for tracking and demonstrating progress toward identified career pathways.
17. Louisiana Board of Regents – a state agency created by the 1974 Louisiana Constitution which coordinates all public higher education in Louisiana. The Board began operations on January 1, 1975, replacing the Coordinating Council for Higher Education. The fifteen members of the Board of Regents are appointed by the Governor to six-year, overlapping terms, with at least one (but not more than two) Regents drawn from each of the seven Congressional districts of Louisiana. In addition, the Legislature may provide for the appointment of one student member. The policies and decisions of the Board of Regents are administered by a full-time staff headed by the Commissioner of Higher Education, Sally Clausen. Louisiana Career Readiness Certificates – WorkKeys Gold, Silver or Bronze certificates that indicate competencies in job-readiness skills in specified areas of business and industry
18. Louisiana Community and Technical College System – Ten two-year institutions that offer two-year associate degree programs or industry-based certifications.

19. Louisiana Early Start Program – provides tuition assistance to eligible 11th and 12th grade students from Louisiana public high schools that enroll in eligible college courses for dual credit at an eligible public or private college or university. Students must meet general eligibility requirements as well as course requirements to enroll in college level, degree credit courses, enrichment/developmental courses or workskills/technical courses.
20. Louisiana High School Redesign Commission – a policy making board appointed by Governor Kathleen Blanco in 2004. The commission, comprised of thirty-six members representing key stakeholder groups, has been charged with redesigning the high school programs of Louisiana to enable all students to graduate from high school prepared to succeed.
21. Louisiana State Board of Elementary and Secondary Education (BESE) – Established as a constitutional body during the 1973 Constitutional Convention, BESE became the administrative policy-making body for elementary-secondary schools. In accordance with the Constitution, eight elected members from the eight BESE districts serve on the Board along with three members-at-large appointed by the Governor. The Board sets key education initiatives and strives to provide leadership in setting an education agenda for the continuous improvement of public education in Louisiana as measured by student and school achievement.
22. Louisiana Virtual School – The Louisiana Department of Education in partnership with The Louisiana School for Math, Science, and the Arts provides Louisiana high school students with access to standards-based high school courses delivered by certified highly-qualified Louisiana teachers

through The Louisiana Virtual School (LVS). LVS is a Board of Elementary and Secondary Education project funded by 8(g) grant sources. Students in LVS courses utilize the web, e-mail, and other online and offline resources to complete a rich course of study in a multitude of courses. The LVS affords schools the opportunity to expand learning opportunities to students through courses that would not otherwise be available to them. LVS courses are offered as full year courses, full-credit semester block, or half-credit block courses.

23. Middle College Concept – Middle College high schools are secondary schools with total enrollments of less than 400 students. These schools, located on college campuses, provide rigorous academics inclusive of free dual enrollment courses within a nurturing environment to a traditionally under-served student population.
24. National Alliance of Concurrent Enrollment Partnerships - a professional organization for high schools and colleges that fosters and supports rigorous concurrent enrollment. Established in 1999 in response to the dramatic increase in concurrent enrollment courses throughout the country, NACEP serves as a national accrediting body and supports all members by providing standards of excellence, research, communication, and advocacy.
25. Partnership for the 21st Century – An advocacy organization consisting of business leaders, educational leaders, and policymakers which focuses on a holistic view of education that blends academic curriculum with these concepts: global awareness; financial, economic, business and entrepreneurial literacy; civic literacy; and health literacy.

26. PLAN – an assessment created by ACT that is administered to all tenth grade students in Louisiana to predict their achievement on the ACT exam
27. Post-secondary Grade Point Average - Cumulative grade point average earned by students in post-secondary institutions. Grade point averages are determined by dividing the total number of quality points earned by the total number of academic credit hours attempted.
28. Remedial College Courses – instructional courses designed for students deficient in the general competencies necessary for the post-secondary curriculum for which no college credit is earned.
29. School Performance Score – The Louisiana State Department of Education annually assigns each Louisiana public school a score that indicates the level of performance comparative to all schools within the state. The school performance score is comprised of standardized test scores, student attendance, and drop-out rates.
30. Selective Admissions – Process of selecting students to qualify to attend four year universities based on academic performance such as ACT scores, grade point average, and class rank.
31. Self-efficacy – Beliefs held about personal capabilities to produce designated levels of performance that exercise influence over events that affect their lives. Self-efficacy beliefs determine how people feel, think, motivate themselves and behave. Such beliefs produce these diverse effects through four major processes: cognitive, motivational, affective and selection.

32. Socioeconomic status – An individual's or group's position within a hierarchical social structure. Socioeconomic status depends on a combination of variables, including occupation, education, income, wealth, and place of residence. For the purpose of the research questions of the study, socioeconomic status will be defined by the participant's self-reported status as eligible for free or reduced lunch status as a high school student and/or Pell-grant eligible as an entering postsecondary student.
33. Status dropout rate – the percentage of sixteen to twenty-four year olds who did not complete high school graduation or the certificate of general educational development (GED) requirements and are no longer enrolled in school.
34. Taylor Opportunity Program for Students (TOPS) Opportunity Scholarship Award – State of Louisiana scholarship program which provides tuition and certain fees for attendance at Louisiana four-year universities that offer baccalaureate degree programs. Students must meet basic requirements pertaining to minimum grade point average and ACT scores as well as completion of a prescribed college-preparatory core course curriculum.
35. Taylor Opportunity Program for Students (TOPS) Tech Scholarship Award – State of Louisiana scholarship program which provides tuition for skill or occupational training at Louisiana post-secondary institutions that do not offer a baccalaureate degree. Students must meet basic requirements pertaining to minimum grade point average and ACT scores as well as course completion in a defined career path.

36. Technical College – Vocational programs that lead to skills certificate within eighteen months of admission. Technical colleges focus on job-readiness skills and workplace behaviors critical to future employability.
37. The College Board – a not-for-profit membership association whose mission is to connect students to college success and opportunity. Founded in 1900, the association is composed of more than 5,000 educational organizations. The College Board serves seven million students and their parents, 23,000 high schools, and 3,500 colleges through major programs and services in college admissions, guidance, assessment, financial aid, enrollment, and teaching and learning. Programs developed by The College Board are the SAT, the PSAT, and the Advanced Placement (AP).

CHAPTER II

LITERATURE REVIEW

The focus of this study is based upon characteristics of dual enrollment participants that affect student success in the postsecondary environment. Literature reviewed examines student demographic characteristics that differ by gender, ethnicity, and socioeconomic status which can create varying degrees of opportunities to experience success in the postsecondary environment. Academic performance assessment that correlates with academic success in postsecondary programs, such as high school grade point average, first term grade point average, ACT scores prior to postsecondary enrollment, and student preparedness for postsecondary coursework, are included in the review. Institutional variables such as the quality of the school environment, high school redesign implementation which includes dual enrollment programs, and the Louisiana framework for high school reform, were accessed as background information for this research.

Dual enrollment has been documented as an effective strategy to increase academic rigor and to prepare as well as encourage students to enter postsecondary institutions at a level of readiness that reduces the need for remedial coursework at the collegiate level. Demographic variables and quality of the secondary program attended affect the transition and retention of students in postsecondary programs. Studies that address these variables are included in this chapter.

Chapter II is divided into a discussion of student demographic variables affecting student postsecondary success, student academic performance assessment indicating student preparedness for postsecondary enrollment, and the quality and design of institutional variables that create opportunities for all students to succeed.

Demographic Variables

Factors such as gender, ethnicity, and socioeconomic status create variance in the opportunity for success in the academic arena. Demographic variances positively influence academic success for some subgroups of the population while negatively impacting other groups. Research comparing sample populations by gender, ethnicity, and socioeconomic status are plentiful. For the purpose of this study, research was limited to sample populations that analyzed postsecondary students.

Gender

Studies involving gender differences have increased due in part to the implementation programs brought about by societal influences such as federal legislation, redefined structures of the family, and availability and access to institutions of higher learning. Differences in the roles and relationships of males and females in current society have shifted expectations and aspirations for both genders, particularly in the area of postsecondary enrollment, persistence, and completion.

Constantly changing environments create a variety of responses by individuals. Males and females exhibit different coping mechanisms in response to stressful situations such as adapting to a new environment that is a critical part of enrollment and attendance at a postsecondary institution. Akos & Galassi (2004) suggested that “to

develop effective school transition programming, school personnel may need to consider the influence of race and gender as variables in the transition process” (p. 107).

Buchanan, DiPrete, & McDaniel (2008) conducted a literature review of studies examining gender inequalities in education from early childhood ages to young adulthood. A section of this review focused on adolescent gender differences, finding that females consistently earn high school diplomas more frequently than males. While the proportion of both genders’ college enrollment has increased for the past forty years, the increase for women has outpaced their male counterparts. In 1960, 65% of all bachelor degrees were earned by men. By 2005, women received 58% of bachelor degrees and comprised 57% of the college campus enrollment (Snyder & Dillow, 2007). Female-favorable gaps in college enrollment and completion are predicted to continue to widen over the next decade (US DOE).

Female students are less likely to drop out of high school without earning a diploma than male students. Status dropout rate is a term which indicates the percentage of sixteen to twenty-four year old persons who are no longer enrolled in high school and did not complete high school graduation requirements or earn a Certificate of Educational Development (GED). Beginning in 1990, female dropout rates began to decrease below the male dropout rate, and by 2005, only 8% of the female population of 16 to 24 year olds dropped out of high school compared to 11% of males in the same age ranges. While dropout rates vary by ethnic groups, the male to female gap is evident in all racial groups (Snyder & Dillow, 2007).

Immediate college enrollment following high school graduation has been correlated with college persistence and graduation (Bozick & DeLuca, 2005). Prior to 1996, men were more likely than women to enroll immediately in college after high

school graduation. However, by the year 2000, 66% of women enrolled immediately in postsecondary programs compared to 60% of men (Freeman, 2004). This advantage of immediate enrollment pattern is consistent across all socioeconomic classes (Bozick & DeLuca, 2005).

Within the United States, women currently earn more degrees than men which correlate with a lower percentage of college attrition and an accelerated rate of degree completion (Freeman, 2004). Factors considered as potential underlying contributors to this disparity between the genders include inequitable academic performance, gender-role attitude shifts, and labor market needs.

Academic performance variance has been documented in the form of self-reported future career expectations. In 1980, 60% of the male population of the graduating class indicated their expectation to graduate from a four year university as compared to 54% of female graduates. The trend had reversed by 2002, when 82% of female high school graduates anticipated earning a bachelor degree compared to 76% of male graduates (Freeman, 2004). Goldin, Katz, & Kuziemko (2006) suggest that the female-favorable gap is related to higher grade point averages and test scores as well as course-taking patterns in math and science courses in secondary education settings which become apparent in the analysis of high school transcripts.

Gender-role attitude shifts that have encouraged women to continue their education beyond high school include the decline of the traditional role of the female as the homemaker and child-care provider, and the traditional male role as the financial provider. As women gain more self-control over the areas of their lives that affect their ability to continue formal education, the numbers of women choosing to enter and

complete college has risen. Delayed ages of first marriages, first children, and first jobs have impacted the educational status of women (Goldin, 2006).

Labor market needs have driven the increased demand for highly skilled workers of both genders in the current marketplace. Legislation addressing antidiscrimination laws and sexual harassment in the workplace has given rise to levels of human capital of women. Occupational aspirations of women have changed to include careers in high-earning potential areas such as law, business, and the sciences (Goldin, 2006).

Changes in availability of various types of educational institutions have fueled the increase in female participation in postsecondary programs. During the latter half of the twentieth century, four year university programs expanded rapidly and the community college growth rate followed suit. Accessibility to programs, particularly affordable educational options, opened doors to female participation. However, a recent study by Buchmann & DiPrete (2006) reported that although females enrolled at two-year colleges at a higher rate than males, two-year college enrollment does not impact female completion of four-year degree programs.

Buchmann, DiPrete, and McDaniel (2008) suggested that future research studies investigate gender differences within additional demographic variables such as ethnicity and socioeconomic status. In synopsis of their research study, the authors conclude:

This rapidly shifting terrain of gender inequalities raises important questions for researchers, policy makers, and educators who want to understand how to improve the educational performance and attainment of all youth-males and females alike- and for educational institutions striving to respond to the needs of their students. (Buchmann, DiPrete, & McDaniel, 2008, p. 332)

Analysis of dual enrollment participants by demographic characteristics will add to the body of knowledge currently available that indicates a female-favorable gap in college attendance and success at the completion of the first term of enrollment. Multiple regression techniques of data analysis will examine the interaction of gender with other individual characteristics of study participants.

Ethnicity

The identified achievement gap between racial groups has been the topic of much research and debate. Providing opportunities for diverse cultures to learn from one another is an opportunity made available on many postsecondary campuses. A variety of factors have been researched to determine underlying causes of the documented achievement gap in American public schools. Many of the factors considered are directly related to student abilities to access postsecondary programs and to succeed upon enrollment.

Education Trust (2009) data indicates that disparity exists between ethnic groups in the areas of high school graduation as well as immediate entry into college. On-time high school graduation rates for the class of 2006 was reported by these ethnic categories: (a) 59% of African-American students graduated in the four year time range, (b) 90% of Asian students graduated on time, (c) 61% of Latino students finished high school in four years, (d) 62% of Native Americans, and (e) 81% of Caucasian students were four-year completers.

Students entering a public college in the fall of 2000 and completing degree programs with four years or even six years who are categorized by ethnic classifications also indicate disparity among the subgroups. Eighteen percent of African-American students completed degrees within four years, while 41% of African-American students

completed degrees after six years of college. Thirty-four percent of Asian students completed a bachelor degree within four years, as 64% of Asian students graduated with a bachelor degree in six years. Nineteen percent of Latino students graduated from college within four years, while 46% of Latino students were degree completers at the six year mark. Seventeen percent of Native American students completed four year degree programs on time, while 38% of Native Americans earned degrees after six years of college. Thirty-one percent of Caucasian students completed degrees within four years, while 57% of Caucasian students completed college degrees six years after initial enrollment.

The Education Trust Report (2009) noted that “low graduation rates have lifelong consequences for students as well as long-term adverse effects on the nation’s economy” (p. 2). Marginalized subgroups of the population are overrepresented in the overall numbers of students who do not complete both high school graduation requirements and baccalaureate degree programs. Decreased quality of life results from denied access to educational opportunities.

Creating access for all ethnic groups will be increasingly more critical based on projections of population changes predicted. The school-aged population of the United States is projected to shift dramatically from the most recent U. S. Census in 2006 to the projection target of 2020. Minority subgroups will increase as the current Caucasian majority decreases. The African-American student population, ages 5-24, will increase by 10%. The Asian and Latino student populations will increase by 39% and 33% respectively. The Native American students will have an 11% increase while the Caucasian school-aged student population will decrease by 6%.

Increased access to educational programs can increase postsecondary enrollment of subgroups within the population. However, additional supports are necessary to ensure that minority students will persist to degree completion. Leppel (2002) suggested that college persistence may be influenced by race, suggesting that African-American students were more likely to have poorer socioeconomic backgrounds which are compounded by the quality of primary and secondary educational experiences they receive. Leppel extracted data from the 1990 survey of Beginning Postsecondary Students who persisted to their sophomore year of postsecondary training during the school year after their initial entry. Based on this data, Leppel constructed a base case to build a predictability model for persistence and grade point average (GPA). The predicted GPA was lower for African-American men and women than for Caucasian men and women, computing a 12.5% gap in female ethnic groups and a 7.4% gap in the male populations. Leppel offers speculation that disadvantaged educational backgrounds may account for the disparity without citation of research that validates this suggestion. The persistence probability for African-American women is higher than for Caucasian women by greater than 3%, which Leppel contributes to an unsubstantiated reference to her interpretation that African-American women equate college degree completion with economic advancement which increases their motivation to persist.

Astin (1972) studied student involvement which indicated that persistence rates were higher for Caucasian students than for African-American students. However, when abilities and past achievements were held constant, African-American students had lower persistence in two-year institutions but higher persistence than Caucasian students in four-year institutions.

Traditional high school norms have created a system that restricts student access to postsecondary programming through academic tracking and isolated curriculum decision making. State policy boards have contributed to the achievement gaps in subgroups of the population through distribution of resources and financial support. Ethnic and socioeconomic disparities among dual enrollment participants in multiple states have been documented (Venezia & Kirst, 2005; the WICHE Report, 2006).

High school programs that identify and remediate academic weaknesses of at-risk students increase opportunities for postsecondary enrollment and persistence while marginalizing the achievement gaps between subgroups which lead to a level playing at postsecondary program entry. Programs indicative of such redesign elements include AVID and College Now (Mehan, Villanuiva, Hubbard, & Lintz, 1996; Klieman, 2001).

Socioeconomic Status

Financial resources are an integral part of student retention. Duffy (2007) suggests that while other forms of diversity such as gender and ethnicity are readily distinguishable, lower income students are invisibly at risk in the postsecondary environment. Students from low-income backgrounds require a variety of support systems in order to succeed in the postsecondary environment. These supports may include financial assistance, availability of program access, opportunities to develop study skills, social integration, and cultural enrichment programs (Duffy, 2007).

Sirin (2005) conducted a meta-analysis of research correlating socioeconomic status and academic achievement during 1999-2000. This study was compared to a previous research review conducted by White (1982). The sample included over 100,000 students from 6,871 schools. A medium to strong correlation was established between socioeconomic status and academic achievement which varied by the unit,

source, range and type of measurement tool utilized. Other factors affecting the relationship between academic achievement and socioeconomic status were related to the school environment, such as the school level, the ethnic makeup of the student population, and the school location. The overall findings of Sirin's analysis determined that family socioeconomic status at the student level is one of the strongest correlates to academic performance. Family socioeconomic status, such as free and reduced lunch and need-based financial assistance, directly affect the student's access to resources within the home that support academic success and social capital necessary to achieve success within the classroom.

Comparative analysis of White (1982) and Sirin (2005) introduces the effect of societal change on the interpretation of demographic factors such as socioeconomic status. Research conducted during the 1960s and 1970s classified student socioeconomic status based on the father's occupation and income, compared to the more recent research analyzed by Sirin that included more diverse definitions of socioeconomic status such as family income, the mother's level of education, and the type of family structure present in the child's home environment. Another change that affected research of the 1980s was the improved familial conditions that children were afforded such as better educated parents and lower numbers of siblings within the home. Researchers also began to include moderating factors that influence the relationship between academic achievement and socioeconomic status such as ethnicity, neighborhood characteristics, and the grade levels of research subjects. Current research and standard definitions of socioeconomic status more closely resemble Sirin's analysis.

The 2005 U. S. Census Bureau statistical analysis of poverty estimates reported the national poverty rate was 13.3%, while the estimated poverty rate for the state of Louisiana was 20.2%. Forty-one of the sixty-four parishes in the state of Louisiana were designated as having poverty rates of over 20%. A poverty rate exceeded 30% was determined for seven parishes within the state (Rural Poverty Research Institute, 2007). The percentage of Louisiana students ages five to seventeen who qualify for free and reduced lunch status is a further indication of the severity of the economic depression experienced by the majority of students in Louisiana public schools. During the 2004-05 school year, the percentage of students qualifying for federal assistance with school lunches was 61.6%. This percentage remains nearly constant for the next two years of data. In 2005-06, 61.2% of school-age children qualified for free or reduce lunch programs and the percentage of students qualifying during 2006-07 was 61.7%.

The Western Interstate Commission for Higher Education (WICHE) detailed analysis of student data sets from the state of Florida for the years of 1996-1997 to compare the characteristics of student subgroups of the population that participated in accelerated learning programs with students who did not participate in any form of postsecondary credit earning programs. The state of Florida maintains a comprehensive data set of student transcripts for the cohorts of the graduating classes of 1996-97 to 2002-03 which includes descriptive characteristics of participants such as socioeconomic status as defined by identical variables to be used in this researcher's analysis, free or reduced lunch status and need-based grant qualification.

Comparisons of dual enrollment participants of low socioeconomic status to mid- to upper-income participants revealed that lower income students participated in dual enrollment programs at a rate of 9.4% compared to 17.1% of student participants in

middle and upper income ranges. Students identified as low socioeconomic status qualified for the Florida merit-based scholarship program, Bright Futures, at a rate of almost 50% less than that of middle- and high-income graduates (WICHE, 2005).

While overall dual enrollment participation increased each year, less than one in ten low-income students participated in this program.

Enrollment and persistence in postsecondary programs in the state of Florida also delineate inequity based on socioeconomic status (WICHE, 2005). Significantly more middle to upper class dual enrollment participants than low socioeconomic participants enrolled at four year universities following high school graduation. Dual enrollment participants identified as lower income students were more likely to enroll at a community college program than a four year university. Table 1 identifies percentages of dual enrollment participants by types of postsecondary program selected.

Table 1

Florida's percentage of student enrollment by socioeconomic classification and type of postsecondary institution

	Community College	4 Year University	Combined Postsecondary Rate of Attendance
Low Income Dual Enrollment Participants	37.3	20.6	57.9
Mid- to Upper-Income Dual Enrollment Participants	30.6	41.1	71.7

Although data analysis in this study revealed lower rates of participation, low-income students who participated in dual enrollment were more likely to enter postsecondary programs upon high school graduation than low-income students who

did not earn dual enrollment credit. Twenty percent of low-income dual enrollment participants enrolled in a four-year university as compared to three percent of low-income graduates who did not enroll in dual enrollment courses.

The relationship between socioeconomic status and dual enrollment participation indicates that students from higher socioeconomic backgrounds are more likely to enroll in these programs. However, benefits for students of lower socioeconomic status are apparent.

Dual enrollment participation during high school can provide support to lower income students in several ways. Low-cost or no-cost tuition assistance provided by state mandated programs creates access for families with financial limitations. Participation in courses with other high ability students can build confidence and self-efficacy in low-income students that transfers into the postsecondary environment. Social support networks of mentoring teachers and parental involvement create a safety net for students that can initiate early intervention if difficulties arise.

Student Academic Performance

Individual student performance in the form of cumulative, end-of-course grades and norm-referenced test scores have been utilized as an indicator of student success as well as a predictor of capacity for future student achievement. Postsecondary institutions rely heavily on student performance on the ACT or SAT and the cumulative high school grade point average as a predictor of college success and a measure for accurate placement in entry level postsecondary courses (Lotkowski, Robbins, & Noeth, 2004). This study gathered self-reported individual student performance information to

examine correlations between secondary achievement measures of success and the postsecondary first term grade point average for dual enrollment participants.

ACT Performance

American College Testing (ACT) assessment scores are utilized to assess appropriate student course placement as well as identify the need for remedial coursework upon entry to postsecondary institutions. The ACT program includes a systematic review of academic progress, beginning with the EXPLORE assessment in the eighth grade. PLAN, the precursor to the ACT Assessment, is administered in the tenth grade and is utilized as a measure of academic readiness for dual enrollment program participation within the state of Louisiana. Minimum PLAN or ACT scores are required for student qualification to receive tuition exempt status in the Louisiana Early Start program (Louisiana Office of Student Financial Assistance, 2009).

Benchmark scores for each of the four sections of the ACT have been developed through a hierarchical logistic regression model which provides an ACT sub-test score that estimates a .50 probability that a student would earn a B or above in the college course analyzed. The benchmark cutoff scores identified through this analysis are: 18 on the English test which correlates to English Composition, 22 on the Math test which correlates to College Algebra, 21 on the Reading test which correlates to Social Science courses, and 24 on the Science test which correlates to College Biology (Allen & Scoring, 2005). These scores were developed utilizing a representative sample of both 4-year universities and community college programs to increase applicability of results. College admissions programs utilize these benchmark scores to recommend student placement in initial postsecondary courses to increase the likelihood of success upon entry into college.

ACT scores are highly correlated to postsecondary grade point average in a comprehensive literature review by Lotkowski, Robbins, & Noeth, which examined 109 studies that met the three criterion for inclusion: (a) examination of the relationship between academic and non-academic factors and postsecondary retention, (b) inclusion of full-time postsecondary students enrolled in four-year universities, and (c) standardized measurement techniques inclusive of variables identified for study. The review of past studies revealed that high school grade point average and ACT assessment scores had a stronger relationship to postsecondary grade point average than socioeconomic status. The ACT assessment composite score, combined with academic self-confidence and achievement motivation was determined to have a stronger relationship to performance than to retention.

Tinto's Model of Institutional Departure (1993) exemplifies the underlying factors that influence student decisions to thrive or exit postsecondary programs and link precollege education with the student's initial level of commitment. Student commitment affects integration into the academic and social aspects of the postsecondary environment. A higher level of student academic competence will increase the level of initial and subsequent academic performance which in turn positively influences the student's decision to persist in the postsecondary program. Program persistence creates self-efficacy of student participants which fosters attitudes correlated with program completion.

High School Grade Point Average

High school grade point average is utilized as a tool for college entrance and course placement. College admissions personnel review high school GPA of applicants to predict the probability of academic success of first-time freshmen.

The high school GPA has been positively correlated with predicting postsecondary success for students with first-year GPAs in the 2.00, 2.50, and 3.00 ranges (Noble & Sawyer, 2002). However, high school GPA was not effective in predicting higher levels of first-year college GPAs, such as 3.25, 3.50, and 3.75. High school GPAs below 2.00 were inconsistently correlated with all levels of first-year postsecondary GPAs.

High school grade point average, as well as academic related skills and goals, have a stronger relationship to retention than to performance (Lotkowski, Robbins, & Noeth, 2004). High school GPAs are more useful in determining whether or not students will persist in the postsecondary environment than in predicting the level of academic success they will achieve.

However, high school grade point averages are not equally useful to researchers in determining postsecondary success of subgroups of the population of college-going students. High school GPAs that are disaggregated based on ethnicity reveals disparity in postsecondary success. Noble (2003) analyzed a sample of African-American and Caucasian student populations from 43 postsecondary institutions as well as a sample of Latino and Caucasian student populations from 25 colleges to determine the differences in postsecondary success by ethnicity. Both African-American and Latino students had a lower probability of postsecondary success than did Caucasian students with the same high school grade point average. Total group predictions for the three subgroups based on the high school GPA were proven to overestimate the first-year performance of African-American and Latino students as compared to accurate predictions of Caucasian students.

First Term Postsecondary Grade Point Average

Academic success in postsecondary programs is measured primarily by earned grade point average or student retention to the next term or year. Grade point average directly affects student attrition based on postsecondary rules that impose sanctions such as academic probation or suspension for students who do not meet the minimum requirements for exhibiting adequate academic progress toward degree or certification completion.

Prediction of first-year college grade point average through the use of ACT composite scores and high school grade point average has been proven to be an effective method of analysis (Noble & Sawyer, 2002). Data from the ACT's Prediction Research history files for the 1996-97 and 1997-98 school years were analyzed to determine the accuracy and success levels of prediction for students' freshman year college grade point averages compared to the successive year students' high school grade point averages and ACT composite scores. Prediction models were constructed for the ACT composite score, the high school grade point average, and the combination of the two variables.

High school grade point average was not found to be a reliable predictor for first-year college grade point averages of students with high levels of academic achievement. High school grade point averages of 4.00 corresponded to a first-year college grade point average of 3.25, 3.50, and 3.75 with a probability of less than .50, suggesting that noncognitive factors contribute to high school grades lower than a B. However, high school grade point averages more accurately predicted first-year college

grade point averages in the ranges of 2.50 and 3.0 than higher levels of academic achievement in the postsecondary environment.

ACT composite scores were as accurate as or more accurate than high school grade point averages in predicting higher levels of first-year college grade point averages. This analysis is consistently with previous studies that have concluded that noncognitive factors are more likely to influence grade point averages of students of average academic ability, while high levels of academic ability evidenced by higher first-year grade point averages are more likely a result of cognitive achievement (Goldman & Hewitt, 1975).

Predictions based on the combination of both the high school grade point average and the ACT composite score were more accurate than the predictions calculated using either measure in isolation. Based on this information, the researcher will consider the variables of self-reported high school grade point average and ACT composite score in combination rather than in isolation to compare success rates of participants as defined by first-term postsecondary grade point average.

A recent longitudinal study by Ishitani and DeJardins (2002) found that the higher a student's first year grade point average, the less likely the student would consider dropping out of the postsecondary institution. This study indicates that a student's postsecondary grade point average can be an indicator of student success as well as a predictor of student retention. Successful completion of dual enrollment courses can translate into an enhanced academic status as first year postsecondary completers utilize academic records from high school dual enrollment courses to calculate first year grade point averages.

Student Preparedness for Postsecondary Coursework

Career aspirations of high school students include postsecondary enrollment at an increasing rate. Approximately 62% of the graduating class of 1995 enrolled in two or four-year postsecondary programs directly out of high school. In 2000, 71% of high school students indicated plans to attend postsecondary programs and prepared to meet those goals by participating in a college preparatory curriculum (Conley, 2001).

While the national high school graduation rate remained relatively stable for the decade of 1991-2002, the percentage of students adequately prepared for postsecondary coursework increased. Seventy-one percent of the nation's youth exited high school with a diploma during this time frame, while college readiness rates increased from 25% in 1991 to 34% in 2002 (Greene & Winters, 2005).

Standards and accountability implementation has positively impacted student preparedness for postsecondary programs during this decade. However, as more students are meeting the admission standards of postsecondary programs, Louisiana graduates are not completing programs at adequate rates. Louisiana students persist and complete degrees at much lower rates than top performing states (Education Watch Louisiana, 2006).

Figure 5 provides a comparison between Louisiana college entrants and top performing states in areas such as postsecondary program entrance, retention, and program completions. Louisiana trails top performing states in all categories illustrated by bar graph comparisons.

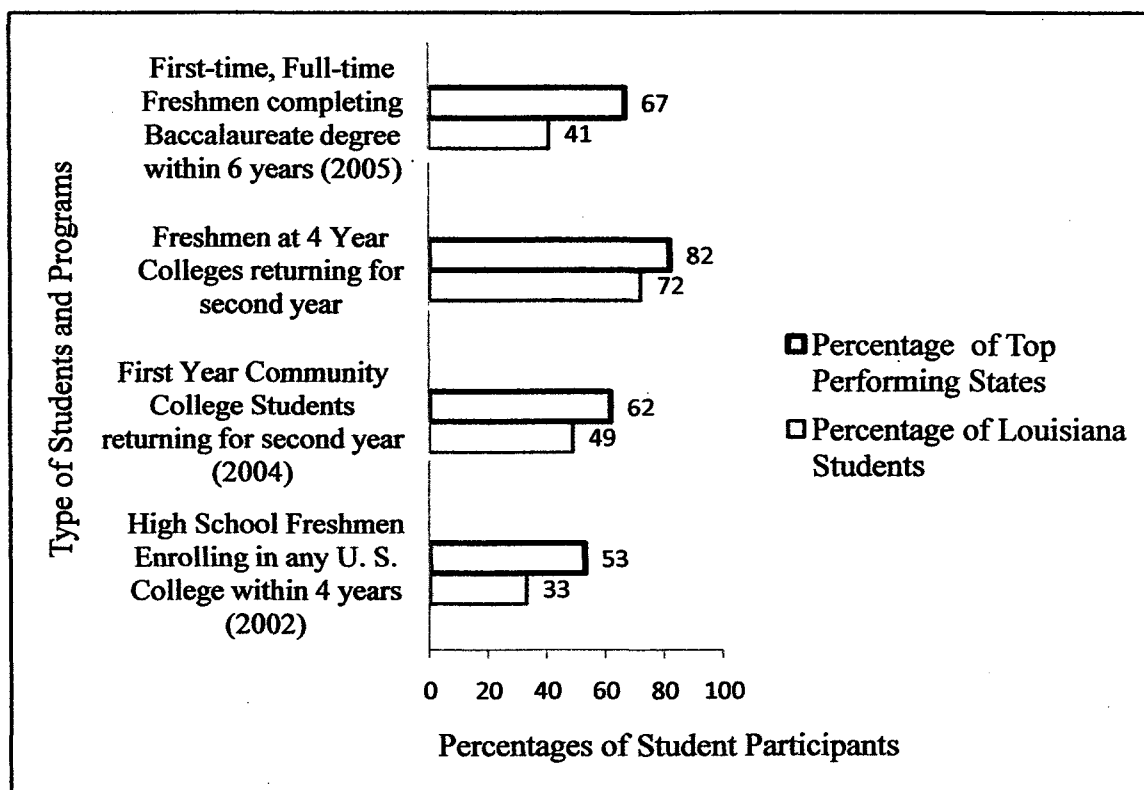


Figure 5. Participation and Persistence in Postsecondary Programs

State legislatures are approving bills that fund dual enrollment programs so that high school students can qualify for tuition exemption status (Education Commission of the States, 2002). Academically capable students, regardless of socio-economic status, are being afforded the opportunity to experience postsecondary academia. This serves as a stimulus to encourage students who may not have considered additional training or degree programs to seek ways to continue with the educational programs began in the high school setting. Applying equitable financing mechanisms helps ensure that low-income and underrepresented students are not excluded from dual-enrollment programs for inability to pay tuition (Krueger, 2006).

Dual enrollment opportunities can create a culture of self-efficacy in the at-risk population as well as the academically prepared student body within a school setting.

Hoffman (2003) assessed the shift in underrepresented students in dual enrollment by observing that until recently, college credit earned during high school was awarded almost exclusively to privileged status students whose parents could afford private schools or well-funded public schools which offered these programs to the highest achieving students. Comparatively, students are currently accessing dual enrollment options who hail from a wide range of backgrounds and diverse academic accomplishments, viewing the academic challenge of college course rigor is an inspiration rather than a barrier. Specialized programs such as middle colleges are identifying students with academic potential and offering college credit programs located on college campuses with access to all college amenities and atmospheres conducive to encouraging participants to realize their academic potential.

Properly designed dual-credit enrollment programs can be effective in helping at-risk students to overcome the barriers that decrease their ability to complete their studies and strive for higher learning (Hugo, 2001). The researcher further found that “the dual enrollment program provides an opportunity for minority and first-generation students to learn about colleges and improve their study skills” (p. 72). In addition to introducing middle to lower achieving students to the rigors of post secondary academics, dual enrollment participation can provide these students with an understanding of motivational and psychological factors that enhance success in postsecondary programs. Students are afforded an opportunity to acquire new behaviors and attitudes toward academic achievement (Bailey, Hughes, & Karp, 2003).

Traditionally underrepresented groups in dual enrollment programs are documented in a study of state and institutional policies and practices published in June, 2006 by the Western Interstate Commission for Higher Education (WICHE). The

Florida K-20 Education Data Warehouse database for 12th grade students during the school years 1996-97 to 2002-03 was accessed for analysis. The dataset for each student included demographic data, the number and type of accelerated credits earned, the year of high school graduation, the number and type of postsecondary credits awarded, the number of remedial courses taken, and postsecondary degrees earned.

The data was disaggregated demographically to investigate the level of participation by socioeconomic status and ethnicity. Dual enrollment participants identified as low income status comprise 9.4% of the total number of low income students in these states. Students not meeting the criteria categorized as low income status participate in dual enrollment courses at a rate of 17.1% of the total student population above the low income level. Student enrollment in postsecondary institutions immediately following graduation mirrors the inequities of dual enrollment participation between these subgroups. Low income status students enroll at community colleges at a rate of 37.3% and in four year postsecondary institutions at a rate of 20.6%. Students who are not categorized as low income status enroll at community colleges at a rate of 30.6% and attend four year colleges at a rate of 41.1%. This data indicates that low income students are more likely than higher income students to attend a community college, while higher income students are twice as likely as lower income students to enroll in a four year university.

Ethnic disparities are apparent in the same population of students when determining dual enrollment participation. Table 2 exemplifies the level of dual enrollment participation by ethnic subgroups in the state of Florida as reported by the Western Interstate Commission for Higher Education in 2006.

Table 2

Florida dual enrollment participation by ethnicity

Ethnicity	Number of Students	Number of Dual Enrollment Participants	Percentage of Sub-group Dual Enrollment Participants
Asian	21,866	4,532	20.7%
African-American	147,797	10,147	6.9%
Latino	120,710	8,378	6.9%
Caucasian	433,523	80,315	18.5%

Caucasian and Asian students participate in dual enrollment courses at more than twice the rate of Latino and African-American students. Of the total number of students who are dual enrollment participants, almost 80% of those students are Caucasian.

Enrollment in postsecondary institutions by ethnic categories (Table 3) is examined as a subset of the data samples. Postsecondary institutions were categorized as either two year or four year programs of study. The percentages indicate students enrolling in these institutions immediately after graduation.

All subgroups enroll at four year institutions at a higher rate than community colleges. Caucasian students attend two year postsecondary programs in higher concentration than any other ethnic group, while Asian students enroll at four year institutions in higher percentages than other ethnicities.

Table 3 disaggregates WICHE report data from the state of Florida, comparing community college enrollment rates to four year institution enrollment rates of dual

enrollment participants. Dual enrollment participants of all ethnic groups enroll at higher rates at four year institutions than community college programs.

Table 3

Florida dual enrollment ethnic subgroup participation by type of postsecondary institution

Ethnicity Institution	Community College	Four Year
Asian	23.4%	46.8%
African-American	27.0%	36.4%
Latino	31.8%	36.1%
Caucasian	32.6%	37.5%

Policy shifts from delineating K-12 and postsecondary programs toward a cohesive K-16 system can facilitate college access for all (Venezia & Kirst, 2005). Traditional high school programs focus on graduation and postsecondary admission rather than postsecondary preparation or success. This practice increases the knowledge gap for traditionally underrepresented groups of postsecondary participants, such as first-generation participants, minority subgroups, and economically disadvantaged students.

Academic tracking further contributes to inequitable distribution of knowledge and skills that increase postsecondary success. High schools engaging in academic grouping of students offer these groups varying access to college preparation materials and opportunities to learn about college policies and practices. Venezia and Kirst (2005)

found that the current information about necessary college information is unequally distributed to students of differing socioeconomic status.

In an attempt to determine the role of public policy in creating systems that are not equitably accessible, Venezia and Kirst (2005) conducted a multi-state analysis of critical stakeholders in the postsecondary arena. This research was conducted between 1997 and 2000 in the states of California, Illinois, Georgia, Maryland, Oregon, and Texas.

The research was conducted in two stages. State, institutional, and school level policies in six states were analyzed by interviewing personnel at highly selective four-year postsecondary institutions, less selective four-year postsecondary institutions, and two-year postsecondary institutions. Next, researchers used a nested approach to select teachers, administrators, and guidance counselors from high schools within the same region and general feeder pattern as the postsecondary school participants. The high school personnel were also interviewed to ascertain current levels of collaboration between institutions and types of postsecondary planning extended to subgroups within the identified schools. Over 2,000 students and parents from 23 schools were surveyed to determine their knowledge of postsecondary programs and requirements. Focus groups were conducted with community college students to ascertain the quality of college preparation activities prior to postsecondary enrollment as well as postsecondary transition.

An apparent theme that was discovered through the field research was the extent of inequalities within and between schools and districts. Examples include accessibility to resources such as college centers on high school campuses, off-campus visits to

colleges, college recruiter visibility, advanced course offerings, and postsecondary options exposure.

Students also lacked the knowledge base critical to accessing postsecondary programs as evidenced by the finding that less than 35% of the students surveyed were aware of state policies that encouraged postsecondary enrollment, and the significant knowledge gaps between socioeconomic status level and honors course participation. Students from higher socioeconomic status were from 3% to 25% more informed of state policies and honors class participants were from 3% to 9% more knowledgeable of state policies than students in general education track courses.

Similar disparities exist between the awareness of parents in differing socioeconomic groups. Although 61% to 66% of all parents surveyed indicated receiving postsecondary information from the high schools, parents of lower socioeconomic status reported receiving college preparatory materials at a rate that was from 19% to 32% less frequently than parents of higher economic standing.

The study concluded with a recommendation to improve mechanisms that standardize data collection nationally to more accurately assess the inequity of access and preparation of secondary school students. Among the suggested steps for improvement, the researchers recommended that senior year academic time be revised to mirror postsecondary course rigor and that dual enrollment or concurrent enrollment programs be expanded to include all students rather than designed to prepare traditionally college-bound groups.

High schools can personalize the learning environment for students and create a college going culture that breeds self-efficacy and intrinsic motivation. High schools participating in the College Summit programs have shifted the measure of success from

attaining a high school diploma to gaining postsecondary admission (Sagawa & Schramm, 2008). College-focused schools exhibit the following characteristics: (a) expect that all underserved students are capable of being prepared to enroll and succeed in college; (b) provide a range of high-quality, college-preparatory tools for students and families; (c) embrace social, cultural, and varied learning styles when developing the environment and activities at the school; (d) involve leaders at all levels in establishing policies, programs, and practices; (e) maintain sufficient financial and human resources for this mission; and (f) assess policy, programs, and practices regularly to determine their effectiveness (Pathways to College, 2005).

Comparative statistics indicate that while 34% of Caucasians earn college degrees prior to age thirty, only 18% of African-Americans and 10% of Latinos complete a four-year college degree within this time frame (Digest of Educational Statistics, 2001). Upper-income students are seven times more likely to earn college degrees by age twenty-four than their lower-income peers. A top-quartile low-income student is less likely than a bottom-quartile high-income student to enter college.

The effects of disparity are evident as early as middle school grade comparisons. Students from lower income households who score in the top achievement quartile in the eighth grade are less likely to enter college than wealthier peers who score at or near the bottom of the achievement scale (Ingels, 2002).

High schools that do not offer academically challenging curriculum paired with high expectations for all students result in statistically significant numbers of students who are required to take remedial courses upon entry into colleges and universities. Twenty percent of first-time, full-time college freshmen at public universities in the United States are required to enroll in one or more remedial course in the academic core

areas of math, reading, and/or writing. Private universities enroll 12% of their first-time students in remedial coursework (NCES, 2004).

The long-term effect of students entering college unprepared for the academic rigor that is required for success result in student attrition (Adelman, 2004). Venezia and Kirst (2005) reported that high school students believe that simply meeting high school graduation requirements will prepare them for college and that getting into college is harder than preparing for, or succeeding in, postsecondary academic coursework.

Students enrolling in remedial courses complete baccalaureate degrees at rates below their academically prepared peers. Dual enrollment can be utilized as a strategy to build academic skills of students during the high school curriculum which can lead to decreased enrollment in remedial coursework upon entry into postsecondary programs. Table 4 demonstrates the effect of student participation in remedial coursework on degree completion.

Table 4

Remedial course participation effects on degree completion

Remediation Status	Percentage Earning Baccalaureate Degree
Any remedial reading	36%
One or two courses of remedial math only	45%
Two or more other remedial courses (not reading)	49%
No remedial coursework	61%

Identifying and remediating academic weakness during the high school years, including recognizing and encouraging dual enrollment participation for at-risk youth, can reduce the numbers of students enrolling in post-secondary institutions unprepared for the academic challenges presented. Watt, Powell, and Mendiola (2004) reviewed data collected from ten Texas high schools serving as pilot sites for a comprehensive school reform model. Advancement via Individual Determination (AVID) targeted mid-range academic students, a sub-group typically underrepresented in four year colleges and universities.

The common characteristics of program participants included: (a) low socioeconomic status, (b) C-level coursework, (c) average-to-above average achievement test scores, (d) a desire to go to college, (e) ethnic and linguistic diversity, and (f) untapped academic potential (Mehan, Villanueva, Hubbard, & Lintz, 1996). Components of the AVID intervention program included required enrollment in a rigorous and relevant curriculum, paired with an elective course addressing academic and social support issues, and tutorial services from college students. During the three year study, AVID students performed better than other students in the same schools on the variables of course completion rates, success on state exams, and average daily attendance rates (Watt, et al., 2004).

The College Now program of New York has developed a two-directional approach to student preparation for postsecondary programs (Klieman, 2001). All participating high schools evaluate students during their eleventh grade year based on academic records and state-mandated test scores. Qualifying students are placed in dual enrollment courses, and unprepared students are provided remedial coursework designed to allow them an opportunity to acquire college readiness skills prior to high

school graduation. The evaluations serve as an early warning system with built-in supports to provide all students access to postsecondary programs.

Dual enrollment programs have been cited as an effective strategy to increase post-secondary participation of minority students (Opp, 2001). Minority students were observed to revise their educational aspirations to pursue post-secondary education at the two-year college level as a result of participating in high school dual enrollment. Opp (2001) suggested dual enrollment as a strategy for “increasing the pool of students of color with postsecondary educational aspirations might be expected to lead to a higher percentage of them applying to and attending college” (p. 78). In the National Center for Educational Statistics School Survey report of the 2002-2003 school year, high schools with the highest number of minority students, 58%, were less likely to offer dual enrollment courses than high schools with lower numbers of minority students, which ranged between 72 – 78%.

Data retrieved from the Louisiana Board of Regents website (2009) illustrates the participation in selected postsecondary programs in the state of Louisiana by ethnicity for the Fall semester of 2008. Minority students within the state are underrepresented in four-year, two-year, and technical college postsecondary programs. Financial assistance programs funded by the Louisiana Board of Regents, such as GO Grants and Louisiana Early Start Tuition Payment have not substantially increased ethnic subgroup participation in postsecondary programs.

Table 5 depicts ethnic subgroup enrollment at Louisiana postsecondary programs identified for research participation. State-wide enrollment in postsecondary programs is also represented.

Table 5

Louisiana first time freshman enrollment by postsecondary institutions and ethnicity

Ethnicity	La. Tech	BPCC	State-wide LTC	State-wide 4 Year	State-wide 2 Year
American Indian	.5%	.5%	.9%	.6%	.8%
African-American	16.7%	16.1%	43.6%	26.4%	34.6%
Asian	.6%	.3%	.7%	1.8%	1.6%
Caucasian	73.7%	34.8%	51.9%	63.4%	48.3%
Latino	.8%	1.2%	1.5%	2.3%	3.1%
Non-Res. Alien	1.7%	0%	0%	2.0%	.7%
Did Not Indicate	6.1%	51.0%	1.5%	3.5%	11.0%

Dual enrollment participation also provides a curricular avenue for disadvantaged students to enhance their academic transcripts, the single most important factor in the college admissions process according to a survey conducted by the National Association for College Admission Counseling (1999). According to Education Trust (1999), degree program completion is positively correlated with early introduction to rigorous academic coursework.

Dual enrollment course completion encourages student assimilation and improves retention rates. College freshman are vulnerable to social isolation and feelings of academic inadequacies (Tinto, 1998), which can be countered by creating a transitional bridge through dual enrollment courses.

Smith (2007) found participation in dual enrollment courses to be significantly important in predicting student aspirations for higher education. Self-reported academic success defined as grades earned and parental education expectations were also significant factors in student determination of post-secondary plans. Academic preparedness as measured by grade point average and standardized test performance is used as a qualifier for dual credit course enrollment in the state of Louisiana (i.e., PLAN Scores and minimum grade point average). This creates a minimum foundational skill set for participants and replicates the level of academic competition within the postsecondary arena.

The National Commission on the High School Senior Year released a preliminary report in January of 2001 that described the senior year as a lost opportunity for too many students (Viadero, 2001.) The commission recommended that stronger connections between the K-12 educational system and the postsecondary programs are needed to create a more seamless curriculum between the two programs. Their findings indicated that students in the senior year often attend more to devising a less demanding academic schedule and to immersion into multiple social activities than rigorous academics that would adequately prepare them for post-secondary aspirations.

The Commission further recommended discarding the traditional system in which the senior year is wasted to one in which the senior year would provide for exploration of postsecondary options and development of improved knowledge and skills. Suggested strategies to improve the senior year include completion of activities such as a capstone project, an internship, a research project, structured community service programs, or college-level courses. Educators as well as policymakers would be required to move beyond the traditional and familiar high school structures toward new

alternatives that will challenge and engage students in their final year of secondary education (National Commission on the High School Senior Year, 2001).

National programs focused on high school improvement efforts through high stakes testing and ninth grade transitional programs have created a new challenge. As the students who have benefitted from these two school reform initiatives reach college entrance, researchers are investigating the next transition faced by this group of school reform participants. Topics of interest include which groups of students earn high school diplomas, which of these graduates are accepted into post secondary programs, how graduates meet the cost requirements of post secondary programs, and which students are successfully completing postsecondary programs within acceptable time frames (Hoffman, 2003).

Although dual enrollment participation was created to address the need to challenge the most academically gifted students in the high school setting, the current trends include offering dual enrollment courses to less academically oriented students, particularly in the career and technical course offerings (Karp & Hughes, 2005). Three goals of career and technical education (CTE) that dual enrollment addresses include: (a) upgrading the CTE curriculum by increasing academic rigor necessary to fill the high tech occupational requirements of business and industry, (b) allowing students to earn transferrable credit rather than credit in escrow which is only redeemable upon admission into the postsecondary program conferring the credit, and (c) utilizing existing equipment on the college campuses to reduce the costs of implementation at the high school site (Karp & Hughes, 2008). Research conducted by this researcher includes data sets from Louisiana technical college sites to address the recommendations of Karp and Hughes (2005) which called for “more research, using

different datasets and additional methods of accounting for pre-existing student characteristics, is necessary” (p. 17).

Community colleges have provided dual enrollment opportunities to students for longer time period than most four-year universities have participated in such programs. Career and technical courses, offered through the Tech Prep funding mechanism, have extended articulated credit options to high school students. However, community colleges traditionally lack the focus on institutional research that is found in four-year universities (Morest & Karp, 2005). This creates a void of data analysis into the success of dual enrollment programs and the ability of dual enrollment participants to access and complete post-secondary programs offered at the community college site.

Based on the increased standards and accountability measures, more high school graduates plan to continue educational pursuits in the postsecondary arena. Dual enrollment participation enhances the self-efficacy of high school students, provides additional career options for traditionally underrepresented groups in postsecondary programs, and increases the academic rigor of the senior year.

Dual enrollment programs serve to address two national concerns regarding secondary student preparation: increasing the rigor of the senior year and decreasing the length of time required to earn baccalaureate degrees (Andrews, 2004). Students participating in dual enrollment courses benefit from increased academic rigor and preparation that contribute to retention and completion of postsecondary programs of study.

Institutional Variables

School Performance Scores

The Louisiana Accountability program identifies all public schools through a system of school performance score labels (Louisiana State Department of Education, 2008). The school performance score for high schools is calculated by a combination of criterion referenced test scores such as the iLeap and GEE21, attendance rates, and drop-out rates. The formula calculates a score that places a school into one of seven categories.

Each school performance score and category is publicly reported in documents such as the school report card. Performance labels (Table 6) can qualify schools for rewards for high scores or subject schools to sanctions for low scores. Continuous levels of low performance levels in the academically unacceptable score range places the school in the category of state-takeover consideration.

School performance scores are calculated for Louisiana high schools using a combination of test scores, attendance, number of dropouts, and the graduation index rate. Statewide test results from the Spring of 2008 indicate that four high schools earned a rating of five stars, no high schools were assigned a four star rating, 26 high schools were labeled as three star schools, 62 high schools were placed in the two star category, 63 high schools earned one star, and 20 schools scored below sixty which placed them in the academically unacceptable category (Louisiana Department of Education, 2008). Table 6 provides the score ranges that are utilized to assign school performance scores to Louisiana public schools by Louisiana State Department officials.

Table 6

Louisiana school performance labels and scores

Performance Label	School Performance Score
Academically Unacceptable	Below 45.0
Academic Warning	45.0 – 59.9
One Star	60.0 – 79.9
Two Stars	80.0 – 99.9
Three Stars	100.0 – 119.9
Four Stars	120.0 – 139.9
Five Stars	140.0 and above

High School Redesign Principles

High school redesign is critical to developing solutions to educational issues that affect the future economic viability of the United States (Wise, 2008). The failure of the traditional high school structure is well-documented. Analyses of graduation rates, college attendance and persistence rates, and surveys of various stakeholders, including high school students, triangulate to clarify the need for extensive changes to the existing method of delivery (Venezia & Kirst, 2005; Smith, 2007; National Governors Association, 2007).

Current statistical data reinforce the recommendations for high school reform. Only 30% of high school freshmen can read at grade level (Lee, Grigg, & Donahue, 2007). Forty-two percent of freshmen in community colleges and 20% of freshmen in

public four-year institutions are required to enroll in remedial courses in core academic areas (NCES, 2004).

While the educational goals have changed significantly throughout the history of the United States, the public high school agenda has changed very little. American public high schools of today graduate approximately 70% of their students following an educational model that was designed to graduate only 10% of the population (Wise, 2008). Lifetime earnings of high school dropouts average \$260,000 less than high school graduates (Rouse, 2005).

High school redesign is a fundamental shift in the culture and design of traditional school functions (Wise, 2008). The focal point of redesign is to clarify the purpose for which high schools exist. Historical events have shaped the changing definition of the role of secondary education. Early in the nation's development, education was dedicated to preparing the privileged to fill leadership roles within the society. Public education was redesigned to meet the economic needs of an industrialized nation with an influx of immigrants. The next source of influence that changed the design of schools was the concern that rival nations were outperforming the United States educational system. In the current era of accountability, the goal of public education is to educate every child. However, such a broad and expansive goal is open to varying interpretations which have created multiple viewpoints of the pathways to achieving this overarching mission of public education (Folly, 2007).

High school redesign proponents suggest that all students are entitled to the same level of services that the best high schools have traditionally provided to their highest achieving students (Donegan, 2008). The process of redesign engages full high school communities to rethink and revise all components of traditional schools that

restrict students from academic rigor. Some components that have been considered for redesign include how time is used, how staff is assigned, and the learning environment for students (High School Redesign Commission Report, 2006).

High school reform encompasses a variety of forms. Common elements of redesigned high schools include: (a) high expectations for all students that are clearly defined and understood by all stakeholders; (b) connections through relationships between adults and students; (c) content of courses are designed to engage all students; (d) systems of early warning monitoring systems with interventions to get students back on track; (e) resource distribution that focuses on student needs over adult preferences; (f) time allocation to extra help for at-risk students; (g) transition supports for incoming ninth grade students; (h) attention to fostering work ethic and study skills that will ensure academic success; and (i) program extensions that link business and community resources to the curriculum within the school (HSR Commission Report, 2006).

The National Governors Association (2007) recommended seven principles to lead federal policy for high school reform. First, state efforts to reform high schools through increased rigor and enhanced high school diploma requirements call for full support at the national level. Second, governors' responsibilities and authority to coordinate statewide education policies to develop a seamless K-16 system require federal support. Third, national incentives are necessary to assist state efforts to increase teacher supply and retention and to facilitate educational research. Fourth, federal efforts can be directed toward better alignment of program requirements to increase uniformity from early education through college. Also, national flexibility is required in state development of diverse learning options and state specific assessment programs. Additionally, financial support of new models for teacher and school leader

development programs are necessary to meet the demands of the redesign concept. Lastly, increased guidance and career counseling programs would facilitate increased early college planning and preparation for students (National Governors Association Policy Position, 2007). These redesign elements contribute to increased student achievement and student success.

According to Wise (2008), three approaches for reform are demonstrating positive results. The first strategy that is yielding promising outcomes is the alignment of school curriculum with the demands of post-secondary schools and industry-based standards of employability. This configuration, applied to all levels of learners, is being utilized in schools with the support of organizations such as American Diploma Project, Partnership for 21st Century Skills, the College Board, and ACT. However, the current implementation is sporadically applied at the state level rather than consistent and systemic application at the national level (Wise, 2008).

A second type of redesign includes programs that create a rigorous, option-rich curriculum that is combined with personalized learning environments and student support systems to provide an overarching safety net that meets the needs of academically gifted students as well as the academically challenged population (Wise, 2008). Multiple pathways to high school diplomas are created which include alternative educational opportunities for overage and struggling students, early-college and dual-enrollment options, and academically rigorous career and technical education programs.

The third approach that is demonstrating success is the use of data-driven, research-based strategies by teachers who apply this information to drive instruction and improve student achievement (Wise, 2008). Formative and summative assessments are vital links to determination of curriculum. Technology integration is developed

through systemic, on-going individualized professional development and training which supports the implementation of personalized learning.

As the global competition continues to increase, the United States has declined from first to thirteenth in the international rankings of national percentages of adults with high school diplomas. Simultaneously, the United States population is shifting in racial makeup which compounds the civil rights issues such as equity of access to high-quality educational programs. Globally, nationally, and locally, educators are being challenged to reform schools to meet the needs of the new American student.

The Association for Supervision and Curriculum Development has developed a Legislative Agenda which supports five components of high school reform: (a) multiple assessments, (b) personalized learning, (c) flexible use of time and structure, (d) professional development for teachers and school leaders, and (e) business and community engagement (Seltz, 2008). Flexible use of time and structure is an element that supports the concept of high school students earning college credits as an early-entry strategy for postsecondary training.

High schools across the nation are being assessed on the basis of their success in preparing America's youth for entry into postsecondary institutions and/or the work force (Education Commission of the States, 2005). The lack of success in meeting these standards has given credence to a call for high school redesign. Louisiana is among the states aggressively pursuing changes that will improve the relevance and rigor of the high school experience for its graduates (Louisiana High School Redesign Commission Progress Report, 2008).

Additional funding to support redesign efforts was garnered when Louisiana was one of ten states selected to receive a Phase One National Governors Association High

School Honors grant in August of 2005. All states involved in the grant program, funded by the Bill & Melinda Gates Foundation, are required to: (a) set 10-year performance goals for improving high school graduation and college readiness rates; (b) adopt a longitudinal, 4-year cohort high school graduation measure; (c) align a coherent P – 16 educational system; (d) participate in the National Education Data Partnership initiative; and (e) execute a communication plan which sustains public support for high school redesign.

High school redesign focuses on the three R's of the twenty-first century: (a) rigor, (b) relevance, and (c) relationships. Infusing rigor into high school curriculums must include emphasis on technology and skills necessary for the knowledge-based economy of the future. Students require relevance to stimulate motivation to learn and to increase connections between academic coursework and future vocational pursuits. Relationship building within the context of smaller learning communities combined with adult mentoring is critical to retaining disengaged students (HSR Commission Report, 2007).

Recommendations for high school redesign have been made by various stakeholder groups, including educational leaders, state policymakers, business leaders, and elected legislative officials. Global economic competition (TIMSS, 1995), increased dropout rates (Editorial Projects in Education, 2007), and inequity of the quality of academic programs (Venezia & Kirst, 2005) are cited as evidence of the need for reform. Common elements in redesigned high schools include enhanced academic rigor and high expectations for all students (National Governors Association, 2007; Seltz, 2008). Dual enrollment programs simultaneously address the core elements that lead to successful high school redesign.

Dual Enrollment

Dual enrollment programs can be identified as far back in history as 1876 to the John Hopkins University Three-Year Collegiate Program (Greenberg, 1988). In 1892, the University of Chicago redesigned programs to designate a two-year junior college which accepted students still enrolled in high school and a separate two-year senior college.

The precursor of secondary/postsecondary partnerships was the merger of Pasadena High School and Pasadena Junior College program in 1928. In 1964, the Simon's Rock Early College was founded by Elizabeth Hall with the mission of providing advanced high school students the opportunity to earn college credit (Stoel, 1998).

Project Advance, developed at Syracuse University in 1972, is credited as the oldest dual enrollment program in the United States. Project Advance has expanded to include 170 high school sites in five states, serving in excess of 8,000 students. The Syracuse program became a primary resource for dual enrollment program development and implementation for other colleges such as Indiana University, the University of North Carolina-Greensboro, the University of Pittsburgh, the University of Wisconsin-Oshkosh, and the University of Minnesota (Peng, 2003).

According to the American Association of State Colleges and University's State Policy Briefing of 2002, dual enrollment programs were first implemented in the 1970s, but gained popularity and rapidly expanded during the mid-1980s. Early dual enrollment programs were designed to provide academically challenging curriculum for gifted high school students. Dual enrollment programs have expanded their audience to

include lower to middle achieving high school students as a strategy to alleviate boredom and disengagement during high school (AASCU, 2002).

Locally initiated partnerships between high schools and post secondary institutions, primarily community colleges, began to emerge during the late 1970s. Dual enrollment was encouraged in the state of Florida by a legislative act in 1979 (Herbert, 2001). In 1985, the state of Minnesota enacted the Postsecondary Enrollment options Program which allowed over 3,700 high school students to receive post secondary credit (Andrews & Marshall, 1991).

The 2001 ECS Study surveyed all fifty states to determine the levels of participation in dual enrollment opportunities for students. States were categorized as comprehensive programs or limited programs. Comprehensive dual enrollment programs were defined as meeting at least two of the following criteria: (a) students pay limited or no tuition for dual enrollment courses, (b) both secondary and postsecondary credit is earned simultaneously, and (c) few course restrictions are imposed. States classified as having limited dual enrollment opportunities were defined by the presence of at least one of the following characteristics: (a) students pay tuition costs of dual enrollment courses, (b) more academic credit restrictions are imposed and (c) stringent criteria is imposed for the limited course offerings.

Based on these criteria, dual enrollment program quality varied widely from state to state. Twenty-one states met the criteria to be described as offering comprehensive dual enrollment programs: (a) California, (b) Colorado, (c) Delaware, (d) Florida, (e) Georgia, (f) Idaho, (g) Iowa, (h) Maine, (i) Massachusetts, (j) Michigan, (k) Minnesota, (l) Mississippi, (m) New Jersey, (n) New Mexico, (o) North Carolina, (p) Ohio, (q) Oregon, (r) Washington, (s) West Virginia, (t) Wisconsin, and (u) Utah.

Twenty-six states had limited dual enrollment programs: (a) Alaska, (b) Arizona, (c) Arkansas, (d) Connecticut, (e) Illinois, (f) Indiana, (g) Kansas, (h) Kentucky, (i) Louisiana, (j) Maryland, (k) Montana, (l) Missouri, (m) Nebraska, (n) Nevada, (o) New Hampshire, (p) New York, (q) North Dakota, (r) Oklahoma, (s) Pennsylvania, (t) Rhode Island, (u) South Carolina, (v) South Dakota, (w) Tennessee, (x) Texas, (y) Vermont, and (z) Wyoming (ECS, 2001).

Dual enrollment courses offerings have been documented as educational options for high school students for more than thirty-five years (Gehring, 2001). Minnesota has been credited as the first state to initiate dual enrollment courses during the 1985 school year (Boswell, 2001). By the year 2000, a survey conducted by the Education Commission of the United States revealed that all but three states had developed dual enrollment policies or initiatives to formalize the agreements between high schools and postsecondary institutions (Boswell, 2001). Eighteen states have mandated that dual enrollment opportunities be made available to high school students (Education Commission of the States, 2005).

Dual enrollment programs have been designed to address two national concerns simultaneously: (a) increasing access to the rigor of college course content to high school students from all sub-groups and (b) improving the transition from high school to postsecondary institutions (Husbands & Beese, 2004). High school students can earn college credit prior to graduation from high school in a variety of forms.

Advanced Placement (AP) courses are designed to replicate the rigor of college coursework through extensive training of high school teachers as well as course audits conducted by the College Board to ensure consistent application of the recommended course requirements. In order to receive college credit for AP courses, students must

successfully complete “a standard examination at the course to determine what students have learned” (Gehring, 2001, p. 17).

Articulated courses are authorized through a local partnership with a university or community college which “banks” credits for high school students for courses which meet the minimum course requirements for course offerings of their institution (Bailey & Karp, 2003). Upon graduation, students must enroll at the credit awarding institution to claim the articulated credit.

Middle College and Early College program models typically reside on the community college campuses and provide students the opportunity to simultaneously earn a high school diploma and an Associate degree. The goal of these programs is to accelerate student progression through postsecondary programs and to increase accessibility as well as affordability of higher education (Husbands & Beese, 2004).

According to Andrews (2001), dual enrollment and concurrent enrollment programs have distinct differences. Concurrent enrollment signifies that the students are taking courses on the college campus which count for both high school and college credit. Dual enrollment courses are offered on the high school campus by high school teachers or adjunct college faculty, but follow the college course syllabus and award high school Carnegie units and college credit hours simultaneously.

The goals of the dual enrollment concept are: (a) promote rigorous academics, (b) save students’ time and money, (c) encourage competition among postsecondary institutions, (d) increase student aspirations to pursue postsecondary training, and (e) foster improved relationships among colleges, high schools, and communities (Education Commission of the States, 2001). An additional benefit of dual enrollment course offerings is to supply businesses with a skilled workforce that can compete

globally (Boswell, 2001). The discipline and academic rigor of dual enrollment courses can facilitate future employees who are more focused and better qualified to meet the challenges of the 21st century (AASCU, 2002). Students participating in such academic rigor are less likely to drain the economic resources of society through unemployment benefits, welfare payments, or criminal activity (National Commission on the Senior Year, 2001).

Forty-seven state legislatures have developed dual-enrollment programs as a strategy to develop human capital to stimulate economic development (Farrell & Seifert, 2007). In a review of selected high school reform strategies, Husbands and Beese (2004) concluded that “college access and completion are critical to the economic well-being of America’s youth, and play a particularly important role in leveling inequities between racial and socioeconomic groups. A continued press at the federal and state levels to link pre- and post-secondary systems and a concomitant push for promising options such as Early College programs appears to be steps in the right direction” (p. 19).

Dual enrollment addresses postsecondary institutional goals for increasing student completion rates and adapting to increases in student enrollment. Based on a longitudinal study of postsecondary education data collected from 1972-2000, time-to-degree average for postsecondary students who enter with college credits is 4.25 years compared with 4.65 years for students without college credits upon enrollment (Education Commission of the States, 2008). During this same time frame, one of four students who completed degree programs earned nine or more credit hours prior to postsecondary enrollment, ten times the number of students who did not complete degree programs.

Collaboration between college faculty and high school teachers can provide a vital link for programs that prepare teacher candidates for the K-12 school system. The effectiveness of teacher preparation programs can be assessed and professional development needs of secondary school teachers can be determined as an added benefit of dual enrollment partnerships (AASCU, 2002).

The National Center for Educational Statistics (NCES) reported that 812,700 high school students or approximately 5% of total high school enrollment were enrolled in 1.2 million dual credit courses during the 2002-2003 school year. Seventy-four percent of these courses were taught at the high school campus, 23% on the postsecondary campus, and 4% were enrolled in distance learning programs (Klein, 2007). Public two-year postsecondary programs delivered services to 619,100 students, while public and private four-year institutions awarded credit to the remaining 188,200 students which highlights the prevalence and early implementation of dual enrollment practices in the community college system (NCES, 2005).

Only 13% of the 16,483 high schools surveyed by NCES indicated that no dual enrollment opportunities were extended to their students during the 2002-2003 school year. Dual enrollment, exam-based credit such as Advanced Placement courses, and International Baccalaureate courses were credited as dual enrollment opportunities. 64% of these dual enrollment courses had an academic focus, compared with 36% of the courses focused on career and technical skills (NCES, 2005).

Dual enrollment programs throughout the nation differ structurally in numerous characteristics (Karp & Jeong, 2008). Course content ranges from an identical curriculum to the college course for which credit is awarded to courses designed specifically for high school students. The location of the course may be on the high

school campus or on the campus of the credit awarding post secondary institution. Course instructors may be specifically qualified high school teachers or eligible college faculty. Some programs restrict course enrollment to dual enrollment students while other secondary courses are offered to both regular high school students and dual enrollment students during the same course. Postsecondary credit may be awarded upon completion of the course, upon completion of the high school diploma requirements, or upon entry into the postsecondary institution awarding credit (Orr, 2002).

Research investigating dual enrollment programs is primarily limited to descriptions of exemplary sites or analysis of small data sets within a single program. A more extensive study was conducted by Karp, Calaigno, Juan, Hughes, Jeong, and Bailey during 2007. This research project, funded by the National Research Center for Career and Technical Education examined the collective data of dual enrollment programs of Florida and New York. Significant positive effects were correlated with participation in programs awarding postsecondary credit to high school students. Comprehensive student data records allowed the tracking of two years of cohorts from high school into postsecondary programs in one southeastern state, New York, and a northeastern counterpart, Florida.

The research centered on the short-term effects of dual enrollment participation for all students and for CTE students utilizing: (a) high school graduation rates and college enrollment rates as indicators; (b) the participation effects on students' initial entry into postsecondary programs using program persistence, grade point average, and enrollment intensity; (c) long-term program effects of dual enrollment participation measured by student postsecondary persistence, grade point average, and credit

accumulation; and (d) the degree of program effects on variables such as race, ethnicity, gender, socioeconomic status, and number of dual enrollment courses taken. Florida and New programs were assessed.

Both programs maintain administrative datasets which were viewed by Karp et.al. (2007). The data were disaggregated based on the identified variables using non-experimental methods, including ordinary least squares and logistic regressions.

Further analysis identified subgroups of the students participating in academic courses and those earning CTE course credit. Both groups showed significantly higher enrollment in postsecondary programs in Florida. Academic course completers were 7.7% more likely to enter a four-year postsecondary institution; CTE completers were 8.6% more likely to enroll in a four-year university (Karp et.al, 2007). Both subgroups were statistically significantly more likely to persist in postsecondary programs into the second semester and earned higher grade point averages at the end of the first year. This positive correlation of persistence and academic success was continued through the second year of postsecondary participation. Grade point averages continued to exceed non-participants into the third year. Dual enrollment participants of both groups exceeded non-participants by 15 or more credit hours by the end of the third year of postsecondary programming. Participation intensity, measured by the number of dual enrollment courses taken during high school, did not affect identified outcomes.

Analysis of the data collected in New York yielded similarly positive results, although not as consistently as Florida. Participants were more likely to pursue postsecondary training and first semester grade point averages were statistically significantly higher than non-participant peers. Dual enrollment participants were ahead of non-participants in number of credit hours earned by the end of the third year

of postsecondary coursework. This indicates that the effect size for dual enrollment remains strong throughout the postsecondary program enrollment. Participation intensity, measured by the number of dual enrollment courses completed, was significant in the New York subjects.

Limitations of the study include the non-random sample of dual enrollment participants whose motivation and support systems may vary from the population at large. The New York sample population was drawn from the student population in vocationally oriented high schools which may not be representative of the general population. The Florida sample was comprised of students meeting academic prerequisites for program participation such as minimum grade point averages. This pre-existing difference in academic quality may create inflated effect sizes in the data analysis.

Recommendations based on the outcomes include the suggestion that states create additional dual enrollment options for a broader range of students rather than limiting participation to the most academically advanced groups. Results indicate that expansion rather than limitations of dual enrollment programs are advisable. Expansion of recruiting efforts that target the inclusion of underrepresented students are recommended as a strategy for increasing opportunities to learn.

Additional research is warranted that expands the comparison of sub-group differences in outcomes to increase awareness of the types of students that can best be served in dual enrollment programs. Revision of sampling procedures can diminish the limitations cited in this research.

Although the majority of literature supports the concept of dual enrollment, some concerns are raised that suggest cautious implementation and increased

availability of programs. Problems associated with dual enrollment include the quality of courses/content equitable to college courses, the amount of time required to register additional students, the administration of applicable placement tests, the additional responsibilities of determining the logistics of transportation and scheduling, and the time commitments of college faculty (Catron, 2001). Concerns raised by parents, school districts, college faculty, and policymakers include: (a) the quality and rigor of courses; (b) dual enrollment agreements between high schools and community colleges without inclusion of four-year university personnel; (c) financial and administrative burdens of dual enrollment programs; (d) repetitive billing to state education agencies to provide financial support to both the school district and the postsecondary institution for dual enrollment students; (e) potential loss of per-pupil funding by the local school district or the postsecondary institution; and (f) reduction of Advanced Placement course offerings (ECS, 2001). Program quality issues have been addressed by the implementation of strategies such as collegiate faculty input on selection of texts and curriculum utilized by high school teachers in addition to uniform end-of-course exams for college students and dual enrollment students receiving credit for courses (AASCU, 2002).

Dual enrollment programs have flourished throughout the United States in a variety of program elements and designs, from comprehensive and cohesive state-wide programs to isolated, local partnerships between individual high schools and neighboring postsecondary institutions. The dual enrollment concept has been promoted as a catalyst to improving the available workforce, increasing educational levels of citizens, and creating a collaborative environment for the K-16 educational system.

Louisiana Framework for Redesigning High Schools

Statistics on Louisiana's current high schools indicate the urgency of redesign (High School Redesign Commission Report, 2006). For every 100 students entering ninth grade, 59 will receive a diploma within four years of entry, 33 will enter college the following year, and only 13 will receive a college diploma within four years of high school graduation. Fourteen thousand students in Louisiana public schools drop out of high school annually. Thirty-six percent of Louisiana's high school graduates must enroll in at least one remedial course upon entry to college. Seventy-one percent of Louisiana businesses report difficulty in finding qualified applicants to fill job vacancies and 41% of employers are challenged to find workers with adequate basic reading skills.

The Louisiana High School Redesign Commission was created in 2004 by Governor Kathleen Blanco and appointed by the Board of Elementary and Secondary Education and the Board of Regents. The goal of the commission was to develop a strategic plan for redesigning Louisiana high schools to ensure that all Louisiana youth will graduate from high school prepared to succeed (Dyer, 2008).

In March of 2005, Governor Blanco joined the network of twenty-two states committed to the goals of the American Diploma Project (ADP) Network. ADP focuses on analysis of high school standards and curriculum alignment to essential college and work readiness knowledge and skills. The four key policies and action steps of the ADP individualized plan for the state of Louisiana are: (a) alignment of high school standards and assessments with the knowledge and skills required for success after high school, (b) revision of high school graduation requirements to provide rigorous

coursework designed to prepare graduates for life after high school, (c) alignment of assessments administered in high school to college and work readiness measures, and (d) accountability measures for high school preparation provided to their graduates as well as assessment of postsecondary institutions for student success in their programs. The members of the High School Redesign Commission serve as the ADP Action Team (Dyer, 2008).

In June of 2005, the Louisiana Legislature unanimously passed Act 233 which recognized the power base of the High School Redesign Commission as an official governing body empowered to make recommendations for the development of statewide policies, guiding principles, and programs to address educational deficiencies of Louisiana high schools (Louisiana Legislative Statute RS17:3951). The commission was comprised of forty-two members selected on the basis of their job responsibilities within the state as well as their expertise in Louisiana public education. These members included the governor's designee; the state superintendent of education's designee; representatives of the BESE board, the Board of Regents and the commissioner of higher education; the chairman of both the House and Senate committees on Education; the presidents of Louisiana postsecondary programs; officials from Louisiana Youth Services Division and the Department of Labor; the chairman of the Louisiana Workforce Commission; members of the both the Adult Learning Task Force and the Louisiana Task Force on Workforce Competitiveness; the 2004 Louisiana High School Teacher of the Year; the 2004 Louisiana High School Principal of the Year; representatives of Louisiana educator organizations; representatives of the Louisiana School Boards Association; a representative of the Louisiana Parent-Teacher Association; representatives from business or industry appointed by the governor; and a

recent Louisiana public high school graduate (Louisiana Legislative Statute RS17:3951).

National experts were consulted and successful redesign programs were studied to develop a vision for Louisiana high schools. Six work groups were formed and assigned a specific problem area to address. At the end of 2005, the committee consolidated the recommendations of the work groups and categorized the recommendations into a three phase implementation model (Louisiana High School Redesign Commission Report, 2006; Louisiana High School Redesign Commission Report, 2007; Louisiana State Department of Education, 2008).

Louisiana High School Redesign Commission Recommendations

Phase One

Phase One draft recommendations identified six areas of critical need and provided recommendations to improve the performance of Louisiana's high schools. The action plan initiated through the Phase One recommendations of the High School Redesign Commission was issued as the first of annual progress reports and further recommendations of the commission.

The first problem identified by the commission was the need for support and expertise in the area of high school redesign for high schools across the state. Recommendation I-1 instructed the Louisiana State Department of Education to analyze current research-based high school redesign elements for effectiveness, to identify exemplary Louisiana high schools currently practicing these redesign elements, and to disseminate these findings to high school educators in the state. Recommendation I-2 addressed the need to build in personalization of the school culture through the

implementation of proven strategies such as small learning communities and comprehensive advisement programs. Recommendation I-3 targeted linking school performance scores with redesign elements that address the weaknesses of the school as determined by data analysis.

The second area of critical need addressed the lack of academic preparation of incoming high school students and the difficulty encountered when attempting to recover from failure on required standardized testing as well as academic coursework. Four recommendations were given to remedy this situation. Recommendation One defined avenues of extra help for students identified as possessing weaknesses in math or literacy through the implementation of an early warning system inclusive of accompanying supports and interventions. Recommendation Two broadened the scope of the early warning system to alert schools to students at risk for dropping out to allow schools to provide more intensive supports to these students. Recommendation Three advises a revision to the current credit recovery policy to allow failing students to make up courses utilizing self-paced online courses in conjunction with end-of-course proficiency examinations. Recommendation Four directs the Board of Elementary and Secondary Education (BESE) to strengthen the GEE remediation policy to require students failing to meet the minimum standard of competency to attend remediation sessions to prepare for upcoming test dates.

The third weakness identified by the High School Redesign report addresses the inappropriate course selection of students in preparation for postsecondary programs. Recommendation one suggests the creation of an educational and career planning website targeting the needs of students in grades eight through twelve as well as the parents of these students. The second recommendation provides staff development

opportunities for educators responsible for introducing students and parents to the features of the e-Portal website.

The fourth problem addressed the lack of rigor and relevance in high school courses. Recommendation one charges the Louisiana Department of Education and the Louisiana Board of Regents (LBOR) with the task of infusing project-based learning into existing high school courses and developing new courses that clearly link the course outcomes with future aspirations of students. Quality, consistency, and rigor of existing courses through the implementation of uniform end-of-course examinations were the strategies suggested for implementation to meet the intent of the second recommendation.

The next problem examined by the commission directly relates to the subject of dual enrollment. Access to both traditional academic as well as technical postsecondary courses during high school enrollment is not conducive to allowing students to participate and to receive full benefits from an academically challenging workload. The first recommendation was to pilot a statewide dual enrollment program during the 2006-07 school year. The limited scope of the pilot program would yield data to assess the barriers and opportunities for expansion of the dual enrollment program based on the outcomes. The second recommendation urged BESE and LBOR to appoint a committee to design a state-wide plan for wide-scale expansion of all types of post-secondary level work at the high school level, including dual enrollment, Advanced Placement, International Baccalaureate, and other viable options.

The final area of concern to the High School Redesign Commission was the lack of support for redesign implementation. The commission recognized the need to involve all stakeholders in the monumental task of changing the current status of

operations in Louisiana high schools. Three recommendations were made to address this concern. First, the commission recommended that a public awareness campaign for high school redesign be developed and implemented. Next, the commission planned to issue an annual report to determine the progress made toward reaching the stated goals of the redesign process. Finally, the commission recognized the need for continuous dialogue and communication between the governmental entities and the public which would create opportunities to assess the effectiveness of the implementation strategies (HSR Commission Report, 2006).

Phase Two

In addition to Phase I recommendations, the High School Redesign Commission has released Phase II draft recommendations, portions of which were adopted by the Louisiana Board of Elementary and Secondary Education on June 21, 2007. Six recommendations were proposed in the Phase II report.

Recommendation One supported an increase in the required units of math from three to four as a graduation requirement. This recommendation was based on research indicating that the highest level of math completed has the strongest correlation to completion of a baccalaureate degree.

Recommendation Two was in favor of implementing the LA Core 4 as the recommended curriculum for the incoming freshman class of the 2008-2009 school year. Graduation requirements will be increased to 24 Carnegie units which include the additional math course. The revised curriculum, the LA Core 4 Curriculum, will be required of all high school students for their freshman and sophomore years. Students can opt out of the LA Core 4 Curriculum at the end of their sophomore year with parent permission.

The Commission's third recommendation addressed strengthening the Career-Technical Endorsement. The Career-Technical Diploma Endorsement will allow students to earn industry-based certifications and enroll dually in Career and Technical Education courses that will align with technical colleges, two-year college programs, and four-year universities. Students can qualify for TOPS Tech or TOPS Opportunity Awards through the Career-Technical Endorsement Path.

Recommendation Four involved modification of the Graduation Index to align the High School Accountability Program with the changes implemented through high school redesign efforts. Changes effected by the LA Core 4 curriculum requirements will necessitate changes in the assignment of point values for students pursuing the most rigorous programs of study. The current method for calculating School Performance Scores gives incentive points to schools whose students earn Academic Diploma Endorsements as well as Career-Technical Diploma Endorsements. A component of these endorsements is qualifying through the successful completion of dual enrollment courses in core academic subject areas or vocational curriculums. Schools are assigned zero points for students exiting high school without earning a diploma or General Equivalency Diploma (GED).

The fifth recommendation replaces the Graduation Exit Exam (GEE) with End-of-Course (EOC) tests. Implementation of the EOC testing will begin with the incoming freshman class of 2009-2010. End-of-course tests will provide alignment for taught curriculum and tested curriculum. Subject content will have consistency and reliability state-wide through the Comprehensive Curriculum implementation and End-of-Course test uniformity.

Recommendation Six addresses a dropout prevention and recovery plan to address the high numbers of students who disengage from high school and do not continue their formal education. Five million dollars of 8(g) funding has been dedicated to support ninth grade initiatives to engage students and curb the dropout epidemic in Louisiana.

Phase Three

Under the supervision of a new governor and a new superintendent of education, the Louisiana Department of Education initiated the development of Phase Three implementation guidelines. During the summer of 2008, the Louisiana Department of Education hosted a professional development summit to define the four key goals of high school redesign efforts of the state as well as the specific indicators of progress toward achievement of targets set for 2015. The key goals address currently identified weaknesses of the Louisiana public high school system. The goals to be addressed by all schools are: (a) to reduce dropouts and increase high school graduation, (b) to increase students' readiness for postsecondary education, (c) to increase career readiness of students, and (d) to increase participation in postsecondary education (Louisiana Department of Education, 2008).

The first key goal of Louisiana's current high school reform plan addresses the significant challenge of high school dropouts and its negative effects on Louisiana's economic future. Dropout rates within the state of Louisiana are at a critical point. Each year, 15,000 students drop out of Louisiana public schools (Louisiana Department of Education, 2008). Baseline data collected for the 2005-06 school year records the Louisiana graduation rate at 64.8 %. Data analysis of racial subgroups further documents the need for reform. The graduation rates for Caucasian students are 72.4%,

African-American students are 55%, Latino students are 62.8%, and Asian students are 77.8% (Louisiana Department of Education, 2008). Growth targets for the school year of 2015-16 are to reach an 80% graduation rate for the 4-year cohort of students.

Action steps to improve graduation rates include a focus on dropout prevention and intervention, development of more relevant curriculum, additional academic intervention programs, greater personalization to meet student needs, and special help for schools with low graduation rates. Revisions to the current curricular offerings at the high school level will be addressed through developing and increasing dual enrollment course offerings.

The second key goal of the reform initiative addresses the need for Louisiana high school students to be better prepared for the expectations of postsecondary programs. Louisiana high school graduates are unprepared for college course rigor based on current statistical analysis. A total of 58.5% of the graduating class of 2006 completed the LA Core-4 curriculum. Achievement gaps are noted in racial subgroups, with Caucasian students completing a college preparatory curriculum at a rate of 65.6% as compared to African-American students whose LA Core-4 attainment rate is 46.8%. Latino students successfully completed the Core-4 diploma requirements at a rate of 56.9% while 83.7% of Asian students received this distinction. The target goal for the 2015-16 school year set by the Louisiana Department of Education is 80%.

Further data analysis reveals similar discrepancies in ACT scores of Louisiana graduates. Percentages of the graduating class of 2006 indicate that students scoring at or above and 18 in English and at or above 19 in Math were 46.1% overall, with 57.2% of Caucasian students meeting this standard compared to 18.8% of the African-American subgroup population. Asian students outperformed all other subgroups, with

63.5% meeting the standard. The target performance standard for the total student population for 2015-16 has been set at 63%. Action steps to be instituted to meet these growth targets include increasing the rigor of the high school curriculum and increasing opportunities for advanced learning. Strategies for advanced learning include expansion of Advanced Placement course offerings utilizing the Louisiana Virtual School platform, providing AP training for qualified instructional staff, and continuous expansion of dual enrollment programs state-wide (Louisiana Department of Education, 2008).

The third step in the 2008 High School Redesign action plan addresses the need to increase career readiness of Louisiana high school graduates. The need to increase career readiness of students is documented through the input of stakeholders in the business and industry sectors of Louisiana.

The Louisiana Economic Development and Worker Training Survey revealed that 71% of Louisiana businesses and industries have difficulty filling available positions with qualified applicants (Council for A Better Louisiana, 2004). Three basic work competencies specifically identified were reading skills, computer/technical skills, and problem-solving skills.

The indicator for success in meeting this focus area of Louisiana High School Redesign will be to increase the number of Louisiana Career Readiness Certificates awarded from the baseline 2,652 certificates in 2005-06 to 9,000 by the year 2015-16. Action steps developed to create opportunities for success include a focus on career exploration and planning, a revision of Louisiana's Core Curriculum to include both work-based learning activities and literacy instruction, and an expansion of career and technical programs with an emphasis on program improvements. Articulation of career

and technical education (CTE) courses offered by the Louisiana Community and Technical Colleges will award college credit for high school CTE courses upon entry into postsecondary programs.

Statistical data retrieved from the United States Bureau of Labor Statistics indicates that by the year 2014, 74% of jobs in the Louisiana business sector will require postsecondary training (HSR Commission Report, 2008). The majority of high demand, high wage employment opportunities within the state of Louisiana require more than a high school degree, but less than a baccalaureate degree. However, the current statistical data indicates that few Louisiana students are continuing their formal education beyond the high school level. During the 2005-06 school year, 51.4% of Louisiana public school graduates enrolled in a Louisiana public postsecondary institution within four years. Further analysis indicates the inequities of access by racial subgroups. African-American students enroll in postsecondary programs at a rate of 44.7% compared to Caucasian students at a rate of 57.2%.

Proposed action steps to meet the 2015-16 growth target of 70% will be comprised of three focus areas: (a) more opportunities to get a head start of postsecondary education, (b) improved recruitment efforts, and (c) increased access to postsecondary education. A major component of addressing these focus areas utilizes dual enrollment as a tool to meet the specified growth target. Rapid expansion of dual enrollment programs and development of statewide articulation agreements are proposed, as well as the establishment of Early College High Schools to increase access for high school students and provide additional opportunities to earn postsecondary credit. Recruitment techniques to be implemented include more aggressive recruitment by Louisiana Community and Technical Colleges and summer programming offered on

college campuses to attract students in the age ranges from middle grades to high school levels. Increased access to postsecondary programs will be achieved through the expansion of grant and scholarship programs, such as Louisiana GO Grants and TOPS scholarships. The LA ePortal will be utilized to disseminate information describing available postsecondary options for students to guide their decision-making processes.

Dual enrollment programs within the state of Louisiana are experiencing rapid expansion due to several contributing factors (Louisiana State Department of Education, 2008; Louisiana Office of Student Financial Assistance, 2009). In 2006, the Louisiana Board of Regents introduced the Early Start Tuitions reimbursement program that compensates Louisiana postsecondary institutions at a rate of three hundred dollars per course for high school students who meet the basic qualifications. These qualifications specify that students must score a composite of at least 17 on the PLAN or a composite score of 18 on the ACT and score at least 18 on the components of English or Math to enroll in dual credit English or Math respectively. Funding for the Early Start Tuition program has increased annually, from two million dollars during the 2006-07 school year to four million dollars for the following year, and five million dollars for the 2007-08 school year (Louisiana High School Redesign Commission, 2008). Emphasis on high school redesign has impacted dual enrollment participation as Louisiana schools develop more rigorous content as a strategy to engage students.

Action steps have been identified for each of the four goals initiated by the Louisiana State Department of Education. Two of the four identified goals include dual enrollment programs as a strategy to achieve the 2015 growth targets (Louisiana Department of Education, 2008). Dual enrollment participation can facilitate increased

participation in postsecondary education and increased student readiness for postsecondary education.

Policymaker Support

Louisiana State Department of Education Superintendent Paul Pastorek recognized the need for increased participation in dual enrollment programs in his December 2007 blog which is linked to the state department website. Superintendent Pastorek suggests:

Dual enrollment is one way to help our children pave the way to a successful career and to ease the transition between high school and college. Dual enrollment gives 11th and 12th grade students the opportunity to enroll in a public Louisiana college or university and receive tuition assistance and earn college credit as well as credit toward their high school diplomas. Students also have the option to take college-level enrichment (developmental) or work skills courses. . . We must consistently work to see that all students take full advantage of this and other opportunities that will give them a springboard into the future – one that should offer unlimited possibilities and set Louisiana students on a course to being truly competitive in a global market. (Pastorek, 2007, ¶ 2)

Current Governor Bobby Jindal plans to request legislation to increase funding for dual enrollment programs targeted toward technical training offered by the Louisiana Community and Technical College System to stimulate economic growth in high demand occupation fields such as healthcare, construction, manufacturing, and transportation (Dyer, 2008). During the January 2009 meeting of the High School Redesign Commission, State Superintendent Paul Pastorek expressed his support for increased rigor in career and technical education courses to ensure quality of instruction

to post secondary institutions issuing articulated and dual credit for courses and his commitment to infusing academic skills reinforcement into career and technical coursework to afford Louisiana high school graduates the skills necessary to compete globally in the 21st century (Louisiana Department of Education, 2009).

The Louisiana Office of Student Financial Assistance (LOFSA, 2009) requires institutional data from all Louisiana public postsecondary institutions annually.

Summarized data indicates the magnitude of dual enrollment participation (Table 7) as distributed among the types of postsecondary programs for the fall semester of 2008.

Table 7

Louisiana dual enrollment participation by type of postsecondary institution

Type of Institution	Number of Dual Enrollment Participants
Technical Schools	2,973
Community Colleges	2,752
4-year Colleges/Universities	4,746

Louisiana's local school systems are attempting to develop partnerships with post-secondary institutions without structured guidelines from the state department that would ensure equity of levels of programming, quality of course content, and equal availability for students regardless of their geographic location. State regulation of dual enrollment programs has been suggested as a strategy to address these challenges (Andrews, 2001; American Association of State Colleges and Universities State Policy Briefing, 2002; Boswell & Kerr, 2001).

In summary, the major themes of the literature review center around the national recognition for high school redesign to better meet the needs of the current economy, the development of dual enrollment programs as a catalyst for increasing academic rigor and relevance, the level of student preparedness necessary to succeed in dual enrollment programs, and the framework of high school redesign that Louisiana has implemented. Policies addressing program evaluation have not been included in the current implementation of the dual enrollment component of Louisiana High School design.

For the purpose of this study, dual enrollment rather than concurrent enrollment programs will be the focus of investigation. Dual enrollment courses offered on the high school campus, in contrast to concurrent enrollment programs delivered on postsecondary campuses, provide the student with the experience of the academic rigor required in postsecondary programs with the safety net of parental involvement and teacher supervision in the high school setting.

The majority of research in the area of dual enrollment is limited to small populations of research participants or studies targeted specific programs, which documents the need for additional research in this area (Andrews, 2001; Orr, 2002; Hoffman, 2003). Data analysis of state-wide programs such as Florida and New York indicate that dual enrollment participation was correlated with factors that support the overall goals of the program. Issues that are raised in opposition to dual enrollment programs include the equity of access to all types of students, the equality of academic rigor to courses offered at the postsecondary level, and the fiscal responsibility for costs associated with tuition exemption programs.

National standards developed within the No Child Left Behind Act of 2001 have created a system of accountability that has forced Louisiana education officials to

recognize the need to redesign the high school curriculum to better serve the students of this state. The Louisiana High School Redesign Commission, created in 2004, continues to develop and enforce policies that will improve student performance. One of the key goals identified by the Commission is to increase students' readiness for postsecondary education (Louisiana Department of Education, 2008). Triangulation of data from numerous sources supports this need, such as ACT scores, high school dropout rates, and business and industry surveys. Support for this initiative has been wide-spread, including Governor Bobby Jindal (Dyer, 2008) and State Superintendent Paul Pastorek (High School Redesign Commission, 2009).

Statistics from the Louisiana Office of Student Financial Assistance website indicate that a sizeable gap exists between ethnic group participation in postsecondary programs throughout the state (Louisiana Office of Student Financial Assistance, 2009). Although programs within the State of Louisiana have substantially increased dual enrollment financial incentives over the past three years, no dual enrollment data has been published that indicates the demographic composition of recipients or the level of postsecondary success the participants have achieved. The proposed study will examine the demographic characteristics of dual enrollment participants as well as their self-reported assessment of the effects of program participation on their transition into postsecondary programs.

CHAPTER III

METHODOLOGY

As dual enrollment participation continues to expand within the state of Louisiana, economic resources are increasingly stretched and programs are being required to document the benefit-cost ratio of continued operation (LOFSA, 2009). Dual enrollment is a key component of Louisiana's high school redesign initiative and has been incentivized by tuition reimbursement programs through the Louisiana Board of Elementary and Secondary Education as well as state-supported grant initiatives. However, categorical data that identifies which subgroups of the high school student population are participating in these programs or the variances in the successful transitions of student participants into postsecondary institutions has not been measured.

More comprehensive and reliable data collection that analyzes the characteristics of dual enrollment programs and demographic variables of the types of students who participate in these programs was recommended by the United States Department of Education Office of Vocational Education in 2003. Bailey, Hughes, and Karp (2003) suggested that the investigation of dual enrollment programs is in an infancy stage, primarily focusing on isolated programs that do not address influential factors such as student characteristics, motivation, or prior academic achievement.

No documented, published research project exists to date that examines these individual factors and characteristics of Louisiana student participants in the Louisiana

Early Start Tuition reimbursement program. This study identified Louisiana public high school graduates completing degree requirements during the 2007-08 school year who participated in dual enrollment programs and subsequently enrolled in an identified technical school, 2-year college, or 4-year university for the 2008-09 school year. Postsecondary programs in North Louisiana were selected as target populations based on established dual enrollment programs.

This chapter delineates the procedures that were used to investigate the characteristics of participants and programs that enhance students' postsecondary success. Descriptions of the research design, population and sample, identified variables, and procedures are provided, along with the null hypotheses, methods of data analysis, and concluding remarks of the research project are identified below.

Research Design

The purpose of this study was to investigate gender, ethnicity, socioeconomic status, composite ACT score, and cumulative high school GPA of dual enrollment participants and environmental factors such as the high school performance score, type of postsecondary institution selected, and quality of dual enrollment programs that influence success in postsecondary institutions as evidenced by their postsecondary, first term grade point average. A combination of self-reported demographic data, academic records, and self-perceptions of enhanced transition to postsecondary programs were collected from first-time postsecondary students who participated in dual enrollment programs during high school. The information was collected through the completion of the National Alliance of Concurrent Enrollment Partners First Year Out Survey.

A quantitative research design was selected as appropriate to conduct this study due to the interest of the researcher in exploring the variables which contribute to postsecondary success of dual enrollment participants. According to Creswell (2005), the problems best suited for quantitative research are situations in which explanations need to be made or trends are being examined. Explaining or predicting relationships among variables is an identifiable characteristic of a quantitative study (Creswell, 2005).

The researcher utilized a survey instrument developed by the National Alliance of Concurrent Enrollment Partnerships to gather data from first-time postsecondary students enrolled at a variety of types of postsecondary institutions across the United States. The First Year Out Student Survey was sent via email to pre-identified students at four postsecondary institutions. The data collected from the retrieved surveys were entered by the researcher into a computer for quantitative analysis utilizing the Statistical Package for the Social Sciences (SPSS v. 16) software program. Data were analyzed using an ex post facto design for the predictor variables of gender, ethnicity, academic rating of high school attended, ACT scores, and socioeconomic status. An ex post facto design was used to identify possible causal relationships among variables, although correlation does not indicate cause-and-effect. A step-wise multiple regression analysis of variance (ANOVA) has been selected as an appropriate statistical analysis method to allow the researcher to view each variable separately from the combined effects of variables selected for this study. As Prycek (2001) stated, the backward elimination technique of step-wise regression begins inclusive of all predictors and ascertains what degree of prediction is lost by progressively deleting the

variables one at a time. This allows the strongest predictive factors to be identified and other variables in the order of correlation to the success of the participants.

Student perceptions were assessed by a seven-point Likert Scale. Survey items 8a, 8b, 8c, 9a, 9b, and 9c addressed student attitudes toward dual enrollment experiences and self-evaluation of academic skills enhancement acquired through dual enrollment course participation.

The independent variable identified for study was the first term postsecondary grade point average. Control variables such as gender, ethnicity, and socioeconomic status will be generated through survey data. Intervening variables studied as determinants of varying degrees of postsecondary success included the school performance label of the high school attended, the type of postsecondary institution selected, high school grade point averages, and ACT scores. The effects of these variables were correlated with the postsecondary first term grade point average reported by research participants.

Population, Sample, and Sites

The population of the study consisted of first year postsecondary students who completed high school degree requirements in a Louisiana public high school during the 2007-08 school year and subsequently enrolled at selected North Louisiana technical schools, community colleges, and a four-year university. Louisiana Tech, Bossier Parish Community College, Southern University of Shreveport, and the Louisiana Technical Colleges in Shreveport and Minden, Louisiana were selected as sites to conduct this research project.

During the fall quarter at Louisiana Tech, the total number of first time freshman students was reported as 1,557 to the Louisiana Board of Regents (2008). First time freshmen enrolled at Bossier Parish Community College totaled 1,205 students and 547 first time freshmen attended Southern University of Shreveport (Louisiana Board of Regents, 2008). The Shreveport and Minden campuses of the Louisiana Technical College reported 137 first time freshman students.

Postsecondary institutions selected for research are active participants in the dual enrollment concept. Louisiana Tech's fall enrollment in dual enrollment programs was reported to be 416 participants. Bossier Parish Community College reported a fall enrollment of 199 participants. Southern University of Shreveport's dual enrollment program has 334 high school students. The Louisiana technical colleges in Shreveport and Minden have 212 students enrolled dually in their campus offerings.

The sample was the group of students from this population that respond to the invitation to participate in the study by completing the NACEP First Year Out Student Survey. Specific numbers of first time freshman students are available for the selected sites, but dual enrollment completers are not identified by postsecondary programs. A convenience sampling of 130 students was utilized based on student responses to paper copies and an electronic invitation to participate in the survey.

Students were invited to participate through a variety of methods, both electronically and in print format. Targeted freshman and sophomore level courses received a written explanation of the purpose and methodology of the study and were recruited for participation by their instructors or professors. Students also received an email which described the study and directed them to respond for a link to the survey for electronic completion. The electronic survey site Survey Monkey was utilized to

transmit the surveys to participants requesting the electronic format. All students were advised of the purpose of the study and informed of the option to refuse to participate at any time during the data collection process.

Postsecondary institutions selected for data collection were identified as active participants in dual enrollment program offerings. North Louisiana postsecondary schools were targeted as a convenience sampling of adequate pools of students meeting the criteria for the study.

Louisiana Tech is categorized as a Southern Region Education Board (SREB) Four-Year 2 institution, as a Carnegie Doctoral/Research University, and as a Southern Association of Colleges and Schools—Commission on Colleges (SACS—COC) Level VI institution. Louisiana Tech does not offer associate degree programs (Board of Regents, 2009). As a research facility, Louisiana Tech University was selected as a site for data collection based on the university's focus on institutional research and established program of dual enrollment course offerings with local school districts. The Louisiana Tech Fall Quarter of 2008 included 1,557 first-time freshman students (Louisiana Tech University, 2008). Over 800 of these students were male and 713 were female. The male population made up 54% of the class and 46% were females. Seventy-four percent of the first-time freshman class, a total of 1,147 students, was Caucasian. Two hundred fifty-nine freshman students were classified as African-Americans, which represented approximately 17% of the entering class. Fifty-six first-time students indicated their ethnic group as other, and 95 students chose not to disclose an ethnic category.

The Shreveport-based campus of the Louisiana Technical College (LTC) has 427 total students currently enrolled. During the 2008 spring semester, 115 students

were dually enrolled in career and technical education courses (Reese, 2008). High school students from both Caddo and Webster parish participate in these course offerings. Bossier Technical High School is housed on the campus of the technical college, with separate administrative staff that supervises the Bossier Parish students in the program. Louisiana technical college programs have a proven history of successful implementation of dual enrollment course participation through the Tech Prep funding program prior to the establishment of the Louisiana Early Start funding initiative. This history of prior experience and the High School Redesign Commission focus on increasing participation in technical school programs pique an interest and encourage research inquiries in including these sites in the data collection.

Bossier Parish Community College (BPCC) offers Associate degree programs and industry-based certification programs to students of varying ages and interests. During the spring semester, Bossier Parish Community College served 199 high school students in the dual enrollment division. The 2008 Fall Semester Freshman class demographic data revealed that 1,052 students were males and 1,671 students were females. The male population is approximately 39% of the freshman class, and females comprise 61% of the incoming freshmen. Ethnic groups represented in the freshman class were Caucasian, African-American, Latino, and Other. The Caucasian population of the BPCC freshman class was 2,435 students, comprising 64% of the total number of incoming students. Twenty-nine percent of the freshman class was African-American, which totaled 1,096 students. The Latino population was computed as 3% and other ethnic groups totaled 4% of the total (BPCC Factbook, 2009).

Southern University of Shreveport (SUSLA) also offers Associate degree programs and industry-based certification programs to students within the Shreveport-

Bossier area and beyond due to the recent addition of onsite residential housing. Southern University of Shreveport began offering dual enrollment courses during the 2000-2001 school year and partners with high schools in seven parishes in the region. The incoming freshman class of SUSLA during the fall of 2007 was comprised of 985 students. Twenty-three percent of these students were males and 77% were females. The total college enrollment for the same semester was largely comprised of African-American students. Eighty-three percent of the student body was African-American, 16% of the students were Caucasian, and the remaining 1.5% were classified as other ethnic groups (SUSLA Factbook, 2007).

The two North Louisiana community colleges identified for participation in this study have established longevity of programming and continuous growth patterns in dual enrollment course offerings. These programs were selected based on this expertise and their interest in utilizing survey results as a tool to improve the quality of their current level of programming.

Postsecondary sites selected for data collection provided an adequate sample of data to address research question two concerning the types of postsecondary institutions that dual enrollment graduates select for postsecondary training. Well-established dual enrollment programs with institutional policies and procedures that address student recruitment, retention, and success can be utilized to assess currently enrolled students' transitional progress.

Procedural Details

Approval for this research project was requested from and granted by the Human Use Committee at Louisiana Tech University and the Bossier Parish

Community College Institutional Review Board. The Human Use Consent form is located in Appendix C, and the Human Use Committee decision granting the approval of this study is found in Appendix D.

Student e-mail addresses was requested from the Center for Institutional Technology and Development at Louisiana Tech University. Bossier Parish Community College student e-mail accounts were provided by the Office of Institutional Research. Students were mailed a document describing the nature of the study and the details of informed consent. A link to the survey was provided in an e-mail that provided student participants with a Secure-Socket Layer (SSL) access to the NACEP survey on the Survey Monkey website. The list management feature of the site allows reminder notices to be emailed to participants until a satisfactory rate of return can be reached.

Louisiana Technical school sites administered student surveys through a homeroom class period during the instructional day. Survey responses were hand coded and entered into a statistical analysis program (SPSS v. 16) by the researcher.

Academic data that is protected by the Family Educational Rights and Privacy Act (FERPA) such as grade point averages and ACT scores were collected through a voluntary self-reported item on the NACEP survey. This collection method occurred as a result of inquiry to the Louisiana Tech Registrar's Office and the Office of Student Management, Marketing, and Public Relations.

Instrumentation

The instrument selected to gather student responses was created by members of the National Alliance of Concurrent Enrollment Partnerships (NACEP). The

organizational mission of NACEP is to support and promote dual enrollment programs of member programs through quality initiatives, program development, national standards, research, and communication (NACEP website, 2009). NACEP was created by a nucleus of 20 founding institutions through a dialogue initiated at the American Association for Higher Education (AAHE) in March of 1997. Membership presently includes 146 postsecondary institutions and 206 individuals from 29 states. Louisiana is represented in the NACEP by one two-year postsecondary institution, Southern University of Shreveport (SUSLA).

The National Alliance of Concurrent Enrollment Partnerships (NACEP) First Year Out Student Survey was developed in 2006 by a NACEP appointed research committee. The survey, found in Appendix A, was created as a response to a need to develop a national database of information describing dual enrollment programs and participants from participating postsecondary institutions. The survey consists of 18 items and contains a combination of forced-choice answers, Likert scale questions, and one open-ended essay question. The researcher added questions that requested participants to self-report cumulative high school grade point averages, highest composite ACT scores, and first term postsecondary grade point average.

Random samples have been surveyed utilizing the NACEP First Year Out Student Survey. Postsecondary institutions participating in the pilot study data collection include: (a) Utah State University, (b) University of Connecticut, (c) University of Wisconsin Twin Cities, and (d) Boise State University.

A letter of explanation of the purpose of the study and the informed consent guidelines, found in Appendix B, was provided for research subjects prior to their

participation in the survey. The Louisiana Tech University Human Use Committee approval of the use of the NACEP survey was granted on April 9, 2009.

Data Analysis

The data was filtered by specified variables and compiled into an Excel spreadsheet, then transferred into the Statistical Package for Social Sciences (SPSS v. 16) for further analysis. Based on the results of a step-wise multiple regression process, the researcher determined the appropriate action for accepting or rejecting the null hypotheses developed prior to data collection.

Null Hypotheses

The following null hypotheses were tested in this study:

1. There is no statistically significant difference in college success as measured by first term grade point average of dual enrollment graduates between demographic variables such as gender, ethnicity, and socioeconomic status.
2. There is no statistically significant difference in college success of dual enrollment graduates between students attending four-year universities and two-year or technical postsecondary institutions.
3. There is no statistically significant difference in college success as measured by first term grade point average of dual enrollment participants between graduates of schools with an SPS label of Academically Unacceptable, Academic Warning, One Star*, Two Stars**, Three Stars***, Four Stars****, and Five Stars*****.
4. There is no statistically significant difference in college success as measured by first term grade point average of dual enrollment graduates with varying levels

of secondary academic performance such as high school grade point average and ACT score ranges.

5. There is no statistically significant difference in the postsecondary success as measured by first term grade point average of dual enrollment graduates based on self-reported levels of satisfaction and skill development attained through dual enrollment participation.

CHAPTER IV

RESULTS

The results of the statistical analysis of the data are contained within this chapter. The purpose of this study was to examine both the demographic variables of dual enrollment participants and the characteristics of the educational environments of these students to identify which variables contribute to postsecondary success.

Descriptive statistics were used to summarize data collected from the sample population. The findings related to each of the identified research questions are discussed in this chapter.

The first research question assessed the relationship of demographic factors of the participant and the degree of postsecondary success as defined by the first-term grade postsecondary grade point average. A discussion of the research findings of the first hypothesis for this research question focuses on the relationship between gender, ethnicity, socioeconomic status and first-term postsecondary grade point average.

The second research question examined the relationship between the type of postsecondary institution selected by dual enrollment participants and the level of postsecondary success. A discussion of the research findings centers on dual enrollment participants enrolled in two-year colleges or technical schools in comparison to dual enrollment participants who selected four-year universities to continue their

education to ascertain if a relationship exists between postsecondary programs selected and first-term postsecondary grade point average.

The third research question related the quality of the high school attended by the dual enrollment participant and postsecondary success. A discussion of the research findings summarize the relationship between the School Performance Score (SPS) assigned by the Louisiana State Department of Education to the participant's high school and the participant's level of postsecondary success indicated by the first-term postsecondary grade point average.

The fourth research question sought to confirm prior research that indicates a relationship between student secondary academic performance such as ACT scores and cumulative high school grade point average and post-secondary success. A discussion of the research findings describes the relationship of dual enrollment participant's secondary academic records and their first-term postsecondary grade point averages (Noble & Sawyer, 2002).

The fifth and final research question utilized the self-assessment of dual enrollment programs by study participants and their level of post-secondary success. A discussion of the research findings center on the relationship between participant's first-term postsecondary grade point average and their ratings on six variables that influence postsecondary success: (a) better prepared academically, (b) more realistic expectations of postsecondary programs, (c) increased confidence to succeed in the postsecondary environment, (d) improved writing skills, (e) improved speaking skills, and (f) strengthened study skills.

Sample

Study participants were solicited from a variety of postsecondary programs in Northwest Louisiana which included two technical colleges, two community colleges, and one four-year university. Participants were invited to participate via email request and personal visits to selected postsecondary classrooms to identify students meeting study qualifications.

A total of 130 surveys were collected. Of the surveys returned, 15 were excluded from data analysis due to the outlier factor for extreme lower limits of the grade point averages in either secondary or postsecondary programs. Forty-three survey participants were males and 87 survey participants were females. The number of Caucasian students completing the survey was 97 which accounted for 75% of the respondents. Twenty-nine of the student participants were African-American, which represented 22% of the total number of surveys completed. Four students identified themselves as other ethnic descent, which represented 3% of the surveys collected.

Demographic variables that captured the effects of ethnic differences were primarily Caucasian and African-American. Based on the insignificant numbers of other ethnic identities, the ethnic variable was limited to four groups: (a) Caucasian, (b) African-American, (c) Latino, and (d) Other.

Data retrieved from the Louisiana Board of Regents website (2009) indicated that the Caucasian population of first time freshmen for all four-year public postsecondary institutions in the state of Louisiana represented 75% of the total population. African-American students comprised 22% of the first time freshmen. The Asian population of first time freshmen for all Louisiana postsecondary institutions during the fall semester of 2009 was 588 students. Louisiana first time freshmen

students reporting their ethnicity as American Indian totaled 256 students. Latino first time freshmen in Louisiana postsecondary institutions were reported as 876 students. These minority populations are less pronounced in North Louisiana postsecondary institutions and constitute less than 1% of the total first time freshman population at the sites selected for data collection for the proposed study (Louisiana Board of Regents, 2009).

Two-year postsecondary colleges vary in ethnic demographics. Approximately 48% of incoming freshman students in these Louisiana institutions were Caucasian. Thirty-five percent of the freshmen enrolled in two-year programs were African-American. Three percent of the population reported their ethnic background as Latino (Louisiana Board of Regents, 2009).

Louisiana Technical College population demographics for the Fall semester of 2008 indicate that almost 52% of the incoming freshman class were Caucasian. Forty-four percent of technical college freshmen were classified as African-American. Latino students comprised 1.5% of this population. The remainder of the population did not indicate ethnicity (Louisiana Board of Regents, 2009).

State-wide totals of Louisiana first-time freshmen students for all three types of public postsecondary institutions during the Fall of 2008 indicate that 58% of the students enrolled were Caucasian, 31% of the students were African-American, and 2.4% were reported as Latino (Louisiana Board of Regents, 2009). Survey respondents in this study closely represented the diversity in ethnic backgrounds represented in the four-year university data. A large percentage of the survey respondents were attending a four year university than two year colleges or technical college programs.

Table 8 identifies the numbers and percentages of survey participants based on self-reported ethnicity. Responses were gathered using the NACEP Survey.

Table 8

Ethnicity of respondents

Ethnicity	Number of Respondents	Percent	Cumulative Percent
African-American	29	22.3	22.3
Caucasian	97	74.6	96.9
Latino	2	1.5	98.5
Other	2	1.5	100.0
Total	130	100.0	

Student socioeconomic status was determined by responses to survey items identifying student qualification for programs such as free and reduced lunch status in secondary school or qualification for Pell Grant funding upon entry into postsecondary programs. Survey item response choices were delineated as follows: (a) yes, (b) no, and (c) don't know. Respondents answering yes to either free or reduced lunch status or Pell Grant eligibility were coded as low socioeconomic status.

Twenty-six participants were identified as lower socioeconomic status based on participation in one of these two federal assistance programs and 75% of the participants were characterized as moderate to high level socioeconomic status. Six participants responded to the two survey items indicating their uncertainty of their status for these financial assistance programs. Based on these self-reported survey items, 20%

of respondents were categorized as low socioeconomic status qualifiers. Table 9 shows the number and percentages of socioeconomic status self-reported by survey participants.

Table 9

Socioeconomic status

	Number of Respondents	Percent	Cumulative Percent
Yes	26	20.0	20.0
No	98	75.4	95.4
Do Not Know	6	4.6	100.0
Total	130	100.0	

Participants were separated into two subgroups based on the type of postsecondary programs attended. Eighty-three participants attended a four year university and 47 participants were enrolled in one of four selected Louisiana Technical and Community College programs, indicating that 64% of respondents attended a four-year university and 36% of survey participants attended a two-year community college or technical college postsecondary institution. Two year colleges and technical schools were collectively grouped into the second category based on their organizational structure functioning under the direction of the Louisiana Technical Colleges System. The demographic data for the survey participants more closely replicates the demographics of state-wide four year university enrollments than the enrollment

statistics listed for all Louisiana public post-secondary programs (Louisiana Board of Regents, 2009).

Participant numbers and percentages based on the type of postsecondary program attended are shown in Table 10. Programs are delineated as two types.

Table 10

Postsecondary school types of respondents

	Number of Respondents	Percent	Cumulative Percent
Four Year	83	63.8	63.8
Two Year/Technical	98	36.2	100.0
Total	130	100.0	

Louisiana public high schools are annually categorized based on characteristics such as standardized test scores, student attendance, student dropout rates, and graduation indices. Schools are assigned a School Performance Score that identifies each program in one of the five categories listed in Table 11.

Participants of the study attended schools of the following SPS labels: (a) two participants attended an AU high school, (b) eighteen participants attended a one star school, (c) forty participants attended a two star school, (d) forty-seven participants attended a three star school, (e) one participant attended a four star school, (f) three participants attended a five star school, and (g) sixteen participants attended a private high school. Three students did not report the high school attended and were excluded

from this analysis. Private high schools in Louisiana are not assessed utilizing the balanced score card rating system.

Of the 127 respondents, 36% attended three star schools, 31% attended two star schools, 14% attended one star schools, 2% attended five star schools, 2% attended academically unacceptable schools, and less than 1% of respondents attended a four star school. Twelve percent of the respondents were enrolled in private high schools. The mean score of this survey item was 2.86, with a standard deviation of 1.533. Table 11 indicates the range of school performance scores earned by respondents' high schools of origin.

Table 11

School performance scores

SPS	Number of Respondents	Percent	Cumulative Percent
AU	2	1.6	1.6
One Star	18	14.2	15.7
Two Star	40	31.5	47.2
Three Star	47	37.0	84.3
Four Star	1	.8	85.0
Five Star	3	2.4	87.4
Private School	16	12.6	100.0
Total	127	100.0	

Entrance requirements into Louisiana postsecondary programs are inclusive of minimum grade point averages and ACT scores. The minimum requirement varies dependent upon the type of postsecondary program selected. The Louisiana Early Start Program, the state dual enrollment tuition exemption plan, also requires that students meet minimum academic requirements to qualify for financial assistance.

Students must maintain an acceptable grade point average in dual enrollment courses in order to continue to take dual enrollment courses for the following semester. The majority of students participating in this research met the minimum requirements for high school academic achievement and ACT standards.

ACT scores were reported as four levels of achievement. Nine participants reported a composite ACT score of 17 or below, which is equivalent to 7% of respondents. Thirty-eight percent of the students, a total of 49 participants, reported an ACT score in the range of 18 to 22.

ACT composite score ranges in the 23 to 26 level included 43 of the participants, which represented 33% of the total respondents. Twenty-six students, 20% of survey respondents, self-reported a composite ACT score of 27 and above. The mean of the ACT scores was 2.76 and the standard deviation was .844. Table 12 illustrates the self-reported ACT score range for survey participants by number and percentage.

Table 12

ACT scores of respondents

ACT Score Range	Number of Respondents	Percent	Cumulative Percent
17 or below	9	7.1	7.1
18 to 22	49	38.6	45.7
23 to 26	43	33.9	79.5
27 and above	26	20.5	100.0
Total	100		

Cumulative high school grade point average was self-reported by survey participants. Fifteen of the 130 participants reported cumulative academic averages greater than 3 standard deviations from the mean. These scores were excluded from analysis. The remaining 115 surveys were included in the analysis of the relationship between cumulative high school and postsecondary first term grade point averages. The mean score for this variable was 3.3939 and the standard deviation was .47152.

One respondent reported a cumulative high school grade point average below 2.0. This accounted for less than 1% of the surveys included in the analysis. Two respondents reported high school grade averages that were in the score range of 2.0 to 2.49, which accounted for less than 2% of all students surveyed. Six students earned high school grade point averages in the range of 2.5 to 2.99, representing 5% of the participants. Thirteen students indicated high school grade point averages in the 3.0 to 3.24 range. This accounted for 10% of the total valid responses. Survey respondents

earning grade point averages in the 3.25 to 3.49 range totaled 18, which represented 13% of student participants. Twenty-nine respondents indicated an earned grade point average in the range of 3.5 to 3.74, accounting for 22% of the total number of surveys completed. The remaining forty-six participants reported grade point averages of 3.75 and above, representing 35% of survey respondents. The mean of self-reported high school grade point averages was 3.3939 with a standard deviation of .47152.

Table 13 provides the grade point average ranges for participants by number of respondents. The percentages of each category of grade point average ranges are shown.

Table 13

High school grade point averages of respondents

GPA Range	Number of Respondents	Percent	Cumulative Percent
2.0 or below	1	.9	.9
2.0 to 2.49	2	1.7	2.6
2.5 to 2.99	6	5.2	7.8
3.0 to 3.24	13	11.3	19.1
3.25 to 3.49	18	15.7	34.8
3.5 to 3.74	29	25.2	60.0
3.75 and above	46	40.0	100.0
Total	115	100.0	

Survey participants were requested to provide a self-assessment of their attitudes toward the effectiveness of the dual enrollment program in terms of preparing students

to meet the demands of postsecondary institutions. Participants responded to six survey items that assessed their opinions through the use of a seven-item Likert scale rating system. Students indicated their rating of academic preparedness, more realistic expectations of postsecondary curriculum, increased confidence levels, improved study skills, improved writing ability, and enhanced public speaking skills. The scale increment choices were as follows: (a) strongly agree, (b) agree, (c) neutral, (d) disagree, (e) strongly disagree, (f) don't know, and (g) not applicable. The answer choice, strongly agree, was assigned a numeric value of one in the coding of the data. The answer choice, agree, was assigned a numeric value of two in data coding. The remaining answer choices were assigned numerical values of increasing order from three to seven. The mean score of this survey item was 2.14 and the standard deviation was 1.05.

In assessing the statement that indicated dual enrollment participation prepared students academically for college, over 73% of participants agreed or strongly agreed with this concept. Only 8 survey participants, less than 7% of all respondents, disagreed or strongly disagreed with this statement.

Table 14 depicts the survey participant response ratings by percentages based on respondent assessment of the quality of academic preparation received during participation in dual enrollment programs. Likert scale ratings were assessed to derive the data.

Table 14

Respondent ratings of academic preparation

Response Selected	Number of Respondents	Percent	Cumulative Percent
Strongly Agree	34	26.2	26.2
Agree	61	46.9	73.1
Neutral	25	19.2	92.3
Disagree	7	5.4	97.7
Strongly Disagree	1	.8	98.5
Don't Know	1	.8	99.2
Not Applicable	1	.8	100.0
Total	130	100.0	

In response to the NACEP Survey (Appendix A) statement regarding student assessment of their dual enrollment experience providing more realistic expectations about the academic challenges of colleges, 66% of survey participants indicated that they agreed or strongly agreed with this assertion. Less than 11% of respondents disagreed or strongly disagreed with this statement. Assignment of numeric coding of answer choices correspond with the coding of the previous survey item. The mean score for this survey item was 2.29 and the standard deviation was 1.212. Table 15 reflects the survey participant ratings of the dual enrollment program capacity to provide realistic expectations of postsecondary rigor.

Table 15

Respondent ratings of realistic expectations

Response Selected	Number of Respondents	Percent	Cumulative Percent
Strongly Agree	37	28.5	28.5
Agree	49	37.7	66.2
Neutral	28	21.5	87.7
Disagree	11	8.5	96.2
Strongly Disagree	3	2.3	98.5
Don't Know	2	1.5	100.0
Not Applicable	0	0	100.0
Total	130	100.0	

In assessing the influence of dual enrollment participation on the confidence level of students, 73% of survey participants agreed or strongly agreed with this assertion. Only six participants responded negatively to this assessment of dual enrollment, representing less than 5% of the total number of survey participants.

This survey item included the seven answer choices ranging from strongly agree to not applicable. Each answer choice was assigned numeric coding values identical to similar survey items listed above. The mean score for this item was 2.03 and the standard deviation was 1.017. Table 16 illustrates respondent ratings of dual enrollment program participation as a confidence-building experience.

Table 16

Respondent ratings of confidence levels

Response Selected	Number of Respondents	Percent	Cumulative Percent
Strongly Agree	43	33.1	33.1
Agree	52	40.0	73.1
Neutral	27	20.8	93.8
Disagree	6	4.6	98.5
Strongly Disagree	1	.8	99.2
Don't Know	1	.8	100.0
Not Applicable	0	0	100.0
Total	130	100.0	

Over 54% of respondents agreed that their study habits were strengthened as a result of dual enrollment participation. However, 24 respondents, representing 18% of participants, disagreed or strongly disagreed with this statement. No participants selected the choices indicating an unknown effect or signifying that this statement was not applicable. Table 17 signifies the ratings of survey participants quantifying the acquisition of study skills through dual enrollment participation.

Table 17

Respondent ratings of study skills

Response Selected	Number of Respondents	Percent	Cumulative Percent
Strongly Agree	29	22.3	22.3
Agree	42	32.3	54.6
Neutral	35	26.9	81.5
Disagree	22	16.9	98.5
Strongly Disagree	2	1.5	100.0
Don't Know	0	0	100.0
Not Applicable	0	0	100.0
Total	130	100.0	

In response to the statement that assessed student opinions on the improvement of writing skills, 67 dual enrollment participants, representing 54% of the survey respondents, indicated that they agree or strongly agree with this survey item. Fourteen participants disagreed or strongly disagreed with this opinion, representative of 10% of the total survey responses. Table 18 signifies the ratings of survey participants quantifying the improvement of writing skills through dual enrollment participation.

Table 18

Respondent ratings of writing skills

Response Selected	Number of Respondents	Percent	Cumulative Percent
Strongly Agree	26	20.0	20.0
Agree	41	31.5	51.5
Neutral	42	32.3	83.8
Disagree	12	9.2	93.1
Strongly Disagree	2	1.5	94.6
Don't Know	2	1.5	96.2
Not Applicable	5	3.8	100.0
Total	130	100.0	

Survey participants responded to the NACEP survey item assessing ratings of improvement of speaking skills by agreeing or strongly agreeing 36% of the time. An equal percentage of survey respondents selected a neutral response to this survey item. Respondent ratings for this item may have been influenced by the subject area of the dual enrollment courses which were selected by the participants. Seven participants, a total of 5% of the respondents, indicated a negative response by selecting to disagree or strongly disagree with the statement. The mean of the responses to this survey item was 3.12 and the standard deviation was 1.414.

Table 19 quantifies the evaluations of survey participants quantifying the improvement of writing skills through dual enrollment participation.

Table 19

Respondent ratings of speaking skills

Response Selected	Number of Respondents	Percent	Cumulative Percent
Strongly Agree	18	13.8	13.8
Agree	29	22.3	36.2
Neutral	47	36.2	72.3
Disagree	20	15.4	87.7
Strongly Disagree	6	4.6	92.3
Don't Know	1	.8	93.1
Not Applicable	9	6.9	100.0
Total	130	100.0	

The independent variable, first-term postsecondary grade point average, was self-reported by survey participants. Fifteen of the 130 participants reported first-term academic averages that were greater than 3 standard deviations from the mean. These scores were excluded from the analysis as outlier scores. The remaining 115 surveys were included in the analysis of the data.

Four respondents reported a first-term postsecondary grade point average below 2.0. This accounted for less than 5% of the surveys included in the analysis. Based on the academic requirements for maintaining enrollment status, student motivation to attain grade point averages above 2.0 are to be considered in assessing the small number of respondents in this grade range.

Nine respondents reported first-term grade averages that were in the score range of 2.0 to 2.49. This score range accounted for less than 7% of all students surveyed.

Fifteen students earned first-term postsecondary grade point averages in the range of 2.5 to 2.99, representing 12% of the participants. Twenty students indicated first-term grade point averages in the 3.0 to 3.24 range. This accounted for 15% of the total valid responses.

Survey respondents earning first-term grade point averages in the 3.25 to 3.49 range totaled 17, which represented 13% of student participants. Nineteen respondents indicated an earned grade point average in the range of 3.5 to 3.74, accounting for 15% of the total number of surveys completed. The remaining thirty-one participants reported grade point averages of 3.75 and above, representing 24% of survey respondents.

The mean postsecondary grade point average was 3.0739 with a standard deviation of .72531. As the independent variable, postsecondary grade point average for respondents was analyzed to investigate significant relationships to identified dependent variables.

Table 20 represents the first-term postsecondary grade point averages self-reported by survey participants.

Table 20

Postsecondary grade point averages of respondents

GPA Range	Number of Respondents	Percent	Cumulative Percent
2.0 or below	4	3.5	4.4
2.0 to 2.49	9	7.8	11.3
2.5 to 2.99	15	13.0	24.3
3.0 to 3.24	20	17.4	41.7
3.25 to 3.49	17	14.8	56.5
3.5 to 3.74	19	16.5	73.0
3.75 and above	31	27.0	100.0
Total	115	100.0	

Hypothesis Testing

Research Question One

Research Question One examined the relationship between dual enrollment participant demographic variables and postsecondary success. Demographic variables identified for analysis included gender, ethnicity, and socioeconomic status.

Postsecondary success was defined as the outcome of the first term of postsecondary enrollment, quantified by the grade point average.

H₁. Null Hypothesis stated that there is no statistically significant difference in college success as measured by first term grade point average of dual enrollment

graduates between demographic variables such as gender, ethnicity, and socioeconomic status (SES).

In the stepwise multiple regression, neither gender, nor ethnicity, nor socioeconomic status were revealed to be significant predictors of postsecondary school success. Therefore, the null hypothesis was not rejected.

Research Question Two

Research Question Two examined the relationship between the type of postsecondary programs selected by dual enrollment participants and academic success measured by first-term postsecondary grade point averages. Postsecondary institutions were categorized as four year university programs or two year and technical colleges.

H₂. Null Hypothesis stated that there is no statistically significant difference in college success of dual enrollment graduates between students attending four-year, two-year, and technical post-secondary institutions.

In the stepwise multiple regression, the type of post secondary institution was revealed to be the third most significant predictor of postsecondary school success ($b = .502, t(110) = 3.240, p < .01$). Therefore, the null hypothesis was rejected.

Research Question Three

Research Question Three focused on the relationship between the academic environment of the secondary school of the respondents and the postsecondary success identified by the first-term postsecondary grade point average. School performance labels of the respondent's home high school were utilized to delineate the quality of secondary education.

H₃. Null Hypothesis stated that there is no statistically significant difference in college success as measured by first term grade point average of dual enrollment

participants between graduates of schools with an SPS label of Academically Unacceptable, Academic Warning, One Star*, Two Stars**, Three Stars***, Four Stars****, and Five Stars*****.

In the stepwise multiple regression, SPS was not revealed to be a significant predictor of postsecondary school success. Therefore, the null hypothesis was not rejected.

Research Question Four

Research Question Four examines the relationship between traditional postsecondary pre-enrollment screening measures and postsecondary academic which was experienced upon completion of the first term of postsecondary enrollment. ACT scores and high school cumulative grade point averages are utilized as predictor variables of postsecondary readiness and potential success by numerous postsecondary institutions.

H₃. Null Hypothesis stated that there is no statistically significant difference in college success as measured by first term grade point average of dual enrollment graduates with varying levels of secondary academic performance such as high school grade point average and ACT score ranges.

In the stepwise multiple regression, ACT scores were shown to be the second largest significant predictor of postsecondary school success ($b = .261, t(110) = 3.636, p < .01$). Similarly, high school grade point average (GPA) was shown to be the fourth largest significant predictor of postsecondary school success ($b = .414, t(110) = 2.813, p < .01$). Therefore the null hypothesis was rejected.

Research Question Five

The focus of Research Question Five was to investigate the relationship between dual enrollment participant's assessment of the effectiveness of dual enrollment programs and the success of dual enrollment participants in postsecondary programs. Respondents assessed dual enrollment programs in areas such as postsecondary preparation, confidence levels of participants, and skill acquisition in academic areas such as reading, writing, and speaking.

H₅. Null Hypothesis stated that there is no statistically significant difference in the postsecondary success as measured by first term grade point average of dual enrollment graduates based on self-reported levels of satisfaction and skill development attained through dual enrollment participation.

In the stepwise multiple regression, attitudes toward studying were the largest significant predictors of postsecondary school success ($b = -.218$, $t(110) = -4.010$, $p < .001$). Other measures of attitudes were not significant predictors of postsecondary school success. Therefore, the null hypothesis was partially rejected.

In summary, four variables were identified as significant predictors of postsecondary success: (a) ACT scores, (b) high school grade point average, (c) type of postsecondary institution attended, and (d) attitudes toward studying. Variables that were not found to be significant predictors of postsecondary success included: (a) gender, (b) ethnicity, (c) socioeconomic status, (d) school performance scores of high school attended, (e) student assessment of academic preparation, (f) student assessment of realistic expectations, (g) student assessment of confidence levels, (h) student assessment of improvement of writing skills, and (i) student assessment of improvement of speaking skills.

Table 21 provides the model summary of the analysis. Following the stepwise multiple regression, the data were fit into a 4-variable model in the equation $Y = .792 - .218*(\text{Study}) + .276*(\text{ACT score}) + .502(\text{Postsecondary Type}) + .414*(\text{High School GPA})$. This model accounts for 26.2% of the variance in measured postsecondary GPA. The adjusted $R^2 = .262$, $F(4, 110) = 4.312$, $p < .001$. The observed power is .999953 and the effect size is large, $f^2 = .404494$.

Table 21

Regression model summary

Mode	R	R Square	Adjusted R Square	R Square Change	F Change	Sig F Change
1	.325	.106	.098	.106	13.340	.000
2	.445	.198	.184	.092	12.913	.000
3	.486	.236	.216	.038	5.566	.020
4	.536	.288	.262	.051	7.912	.006

Mode 1 Predictors: (Constant), Study

Mode 2 Predictors: (Constant), Study, ACT Score

Mode 3 Predictors: (Constant), Study, ACT Score, Postsecondary Type

Mode 4 Predictors: (Constant), Study, ACT Score, Postsecondary Type, High School GPA

As demonstrated in Chapter IV, relationships between postsecondary success and student variables were weak. However, the relationship between traditional predictor variables such as high school grade point average as well as ACT scores and

postsecondary success is significant for dual enrollment participants. This supports the findings of Noble and Sawyer (2002).

The type of postsecondary institution selected and the postsecondary success of dual enrollment participants was found to be significantly related. Dual enrollment participants consistently indicated their willingness to recommend dual enrollment programs to current high school students. However, student assessment of dual enrollment programs was largely insignificant, with the exception of the inverse relationship noted between improved study skills and postsecondary success. The implications of these findings and recommendations for further study are discussed in Chapter V.

CHAPTER V

DISCUSSION AND CONCLUSIONS

In order to explore identified variables which contribute to the postsecondary success of dual enrollment participants, the National Alliance of Concurrent Enrollment Partnerships First Year Out Survey was administered to 130 first-time freshmen in select Louisiana four year universities, two year community colleges, and technical colleges. The statistical results were reported in Chapter IV. The findings and implications for educators in secondary and postsecondary programs are discussed in this chapter.

Conclusions ascertained from the statistical findings for the five identified research questions comprise the second section of this chapter. The third section of the chapter includes implications for future practice which are followed by recommendations for further research.

Conclusions

Research Question One examined the relationship between identified demographic variables of dual enrollment participants and their degree of postsecondary success defined by the first-term postsecondary grade point average. Three demographic variables were selected for analysis: (a) gender, (b) ethnicity, and (c) socioeconomic status.

Alos and Galassi (2004) suggested that the variables of gender and race are related to the successful transition of adolescents from one institutional setting to another. Previous research findings indicate correlation between gender and postsecondary success (Snyder & Dillow, 2007; Freeman, 2004). Female students were less likely to drop out of high school, more likely to enroll in postsecondary programs, and earn more degrees with lower attrition rates than men. However, the results of this study did not support the female-favorable gap in postsecondary programs.

While ethnicity and socioeconomic status have been established as factors in student achievement on standardized measures of academic progress (Leppel, 2002; Sirin, 2005), this study failed to reveal a significant relationship between these two demographic variables and postsecondary success. Low persistence and completion rates for some minority groups, such as African-Americans and Native Americans are documented in data analysis published by Education Trust (2009). Leppel (2002) constructed a predictability model that forecasted a lower postsecondary grade point average for African-American men and women than the grade point average for Caucasian men and women. The data analysis conducted through the use of the survey responses collected in this study did not support this assertion. Ethnicity was not significantly related to the postsecondary success of dual enrollment participants.

Socioeconomic status has been documented to significantly influence the academic performance of students (Sirin, 2005). High rates of poverty exist within the state of Louisiana as evidenced by free and reduced lunch participation of over 50% of school-age children (Rural Poverty Research Institute, 2007). Only 20% of the dual enrollment survey participants were categorized as low socioeconomic status while 75% of the students surveyed indicated that they did not receive free or reduced lunch status

or qualify for need-based financial aid programs. The socioeconomic status of dual enrollment survey participants did not show a significant relationship to the students' first term postsecondary grade point average.

Research Question Two examined the relationship between the School Performance Score assigned by the Louisiana State Department of Education to the high school attended by the survey participants and the first-term postsecondary grade point average of the respondents. Seventy percent of Louisiana high schools were assigned a School Performance Score in the range of 60 to 99.9, identifying these schools as one-star or two-star schools (Louisiana Department of Education, 2009).

Over 65% of survey participants attended high schools that earned School Performance Scores in the range of 80 to 119.9, categorizing these institutions as two-star or three-star schools. Only 14% of survey respondents graduated from high schools identified as one-star schools. Therefore, the assigned school performance labels of the high schools attended by the sample population are not representative of the statewide distribution of performance scores. Based on the SPS assigned to the high schools attended by survey respondents, a significant relationship does not exist between school performance scores and postsecondary success.

Research Question Three focused on the relationship between dual enrollment participants' secondary academic achievement and the respondents' first-term postsecondary grade point average. Both the cumulative high school grade point average and composite ACT scores were significantly related to the postsecondary success of respondents. This finding supports the predictor value of the ACT score that was reported in the research of Allen and Sconing (2005). Lotkowski, Robbins, and Noeth (2004) also reported stronger relationships between high school grade point

averages and ACT scores with postsecondary grade point averages than with socioeconomic status.

Research Question Four examined the relationship between the type of postsecondary program attended and the postsecondary success of the survey participants. While similar studies have found positive relationships exist for students participating in academic dual enrollment courses as well as students who earned dual enrollment credit in career and technical education courses, additional research to expand the comparison of sub-groups was recommended (Karp, Calaigno, Juan, Hughes, Jeong, & Bailey, 2007). Based on the extensive search for dual enrollment participants in the two-year and technical school programs within the North Louisiana region, it is apparent that the majority of high school students earning college credit are enrolling in four-year university settings.

Although the number of survey participants from each of these two types of postsecondary institutions varies widely, data analysis indicates a strong relationship between type of postsecondary institution selected and postsecondary success. The type of postsecondary institution selected by dual enrollment participants was the third most significant predictor of postsecondary school success.

Research Question Five examined the relationship between postsecondary success of dual enrollment participants and their perceptions of skill development as well as satisfaction with dual enrollment programs. Specific content areas of dual enrollment courses may affect participant responses due to the amount of instructional time spent on the academic areas surveyed: (a) study skills, (b) writing skills, and (c) speaking skills.

The inverse relationship between postsecondary grade point averages and student perception of improving study habits may indicate that students with adequate study skills prior to dual enrollment participation do not record an increase in those skills. Students who indicate an improvement in study skills may be inherently weaker academically and fail to follow through with independent study habits when they move to college. This finding supports the conceptual model of Karp (2005) that was utilized as one of the theoretical frameworks for this study. Karp asserted that pre-requisite skills such as self-motivation, social skills, and academic preparedness can be developed through a well-defined cohesive plan of support services during the pursuit of dual credit hours.

Implications for Practice

Students appear to be directed into appropriate postsecondary programs of study. High school redesign components implemented by Louisiana legislation such as the Career Options Law include extensive career advisement to facilitate these choices. This is supported by the significant relationship between type of postsecondary program selected and the first-term postsecondary grade point averages of dual enrollment participants.

Students are screened prior to entering dual enrollment programs based on academic performance in early high school grades. Early Start tuition exemption criteria may exclude students that could benefit from dual enrollment as a strategy to increase student engagement and to create interest in the pursuit of postsecondary training.

Although Louisiana statistics indicate that more than 50% of all students live in poverty, more than 75% of the survey respondents were identified as middle to upper income based on responses to items indicating free or reduced lunch status and need-based financial assistance for postsecondary training. This suggests that a disproportional number of students from middle to upper income homes are benefitting from dual enrollment programs and the earned college credits perpetuate the disproportional attendance at postsecondary institutions. Targeted identification and recruitment programs at the secondary level could be developed as a strategy to increase participation of students from disadvantaged backgrounds.

Increased collaboration between postsecondary programs and high schools responsible for delivering courses that extend dual enrollment credit would be beneficial to students. Connections between prerequisite academic skills such as writing and speaking to the requirements of college coursework are not clearly conveyed to dual enrollment participants based on survey participant responses. Additional support systems designed to create a seamless transition between secondary and postsecondary institutions would enhance student academic performance during the first term of postsecondary enrollment.

While ACT scores and high school cumulative grade point averages are linked to postsecondary success of dual enrollment participants, other research indicates the need to expand the pre-college application to consider other measures of intelligence and college preparedness (Sternberg, 2004). As research continues in the area of multiple types of intelligence, pre-entry screening can be improved to more accurately predict student success in postsecondary programs.

Funding of dual enrollment programs through the Early Start Tuition reimbursement program has been limited for the 2009-2010 school year based on budget restraints within the State of Louisiana. Limitations placed on the number of tuition-exempt courses per semester may affect the access and utilization of the dual enrollment program by the students who most need the exposure to the rigor of postsecondary programs and the financial assistance to break the cycle of poverty.

One limitation of the study was the lack of access to a state-wide data base of records that track dual enrollment participants from high school to postsecondary programs. Development of a comprehensive state-wide data base utilizing Florida's model would enhance the evaluation of the success of the Louisiana Early Start program and could provide direction for participant recruitment to increase access for underrepresented subgroups of the high school population.

Recommendations for Further Research

Based on this study and review of the literature, the following recommendations for further research are proposed. Future study in the area of dual enrollment is needed to determine the most effective and efficient use of these programs.

The current study was limited to students enrolled as first-time freshmen in specified postsecondary institutions in North Louisiana. One four year university, two technical colleges, and two community colleges were the sites selected for data collection. Additional research which includes students from a larger geographic region could be undertaken to test the findings of this researcher. Identification and participation of students enrolled in postsecondary institutions that offer degree or certificate programs less than bachelor degrees would be of interest, as the majority of

the student participants in this study chose to enroll in four-year universities upon graduation from high school.

Additional studies that are conducted in states that do not provide financial incentives for students to participate in dual enrollment may provide additional insight into the effects of funding restrictions that are currently being implemented in Louisiana. Types of postsecondary institutions attended as well as the socioeconomic status of students participating in dual enrollment programs may be affected by the availability of financial support systems.

The NACEP First Year Out Survey is designed to gather data from dual enrollment participants during their first year of postsecondary enrollment. A comparison of the academic achievement levels of students who did not participate in dual enrollment programs, particularly those with similar demographic characteristics and levels of secondary school performance would provide clarification of the effects of program participation.

Based on a review of current literature, retention and time-to-degree in postsecondary program completion is reported to show significant relationships with student postsecondary success (Adelman, 2004; Carey, 2004; Ishitani & DesJardins, 2002). Future research developed through identification of a cohort of dual enrollment students that collects continuous data at annual intervals from the completion of secondary school may clarify relationships between the variables examined in this study.

Information collected for this study was gained exclusively from dual enrollment participant responses. Inclusion of input from other significant stakeholder groups, such as high school guidance counselors, high school administrators,

postsecondary program personnel, and parents of participants would add to the body of knowledge that currently exists in defining the effects of dual enrollment on postsecondary academic performance. NACEP has designed survey instruments to assess dual enrollment program effectiveness as reported by high school guidance counselors, high school dual enrollment teachers, and high school administrators. The level of experience and knowledge base of professionals who are in positions of authority and influence may affect the attitudes and motivation of dual enrollment program participants.

The level of collaboration between secondary and postsecondary educators can support or hamper a seamless transition for students as supported by the National Governors Association (2007). The NACEP survey instrument contains survey items that address dual enrollment provider assessments of the level of collaboration that exists among partner programs.

APPENDIX A

NACEP FIRST YEAR OUT STUDENT SURVEY

National Alliance of Concurrent Enrollment Partnerships 1 Year Out Survey
Student Follow-Up Questionnaire

1. I am 18 years old-- or older-- and agree to allow the information provided in this survey to be used for research purposes that may be published. *(All names or other identifying information will be removed)*

Yes No

2. High School in which you took dual enrollment classes:

High School Name: _____

City: _____, Louisiana

3. My High School was: Public Private/Parochial

4. How many college credits did you earn through dual enrollment?

3 or less 4 to 6
 7 to 12 13 to 18
 More than 18

5. Have you attempted to transfer the credits you earned to the college in which you are now enrolled? *(Check all boxes that apply.)*

- No, I did not need to request a transfer of credits because I am now enrolled in the college granting the credit.
- Yes, I had my transcript sent to the college I currently attend.
- Yes, I showed my course portfolio to a member of the appropriate academic department.
- No, I did not even transfer my credits.

8. As a result of taking dual enrollment courses: (SA = strongly agree, A = agree, N = neutral, D = disagree, SD = strongly disagree, DK = don't know, NA = not applicable.)

	SA	A	N	D	SD	DK	NA
a. I strengthened my study habits (e.g., time management skills, note-taking skills, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. I strengthened my writing skills.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. I strengthened my speaking skills.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9. What was your impression of dual enrollment participation?

Excellent Good Neutral Poor Very Poor

10. Would you recommend dual enrollment to current high school students?

Yes No

The next few questions may seem personal. We ask these questions because governments and education-related agencies often want to know who is served by dual enrollment programs.

11. Did one or more of your parents attend college? Yes No

12. Which income background would you consider your family to fall within?

Low Income Moderate or Middle Income High Income

13. If you attended a public high school, did you qualify for a free or reduced lunch plan?

Yes No Don't know

14. Were you eligible for a Pell grant upon high school graduation?

Yes No Don't know

16. Are you a: Female Male

17. Are you: (*Check all that apply.*)

- Black or African-American White
 Hispanic/Latino Non-resident alien
 Two or more races Asian

 Race and ethnicity unknown

18. What was your highest composite ACT score prior to high school graduation?

- 17 or below 18 -22 23-26 27 or above

19. High School Cumulative Grade Point Average:

- Below 1.0 1.0 to 1.99 2.0 to 2.49 2.50 to 2.99
 3.0 to 3.24 3.25 to 3.49 3.5 to 3.74 3.75 and above

20. LTC First semester Grade Point Average:

- Below 1.0 1.0 to 1.99 2.0 to 2.49 2.50 to 2.99
 3.0 to 3.24 3.25 to 3.49 3.5 to 3.74 3.75 and above

21. Final comments about dual enrollment programs:

Thank you for taking time to complete this survey.

APPENDIX B

PARTICIPANT LETTER

6513 Indian Hills Boulevard
Shreveport, Louisiana

Dear Student:

I am a doctoral student at Louisiana Tech University. As part of my degree requirements, I am conducting research in an area of interest to educational leaders. My research centers on the effect of dual enrollment participation on students during their first year of college or technical school. I am interested in learning what groups of students receive the greatest benefit from dual enrollment participation. Specifically, I hope to provide data for policymaking boards within the state of Louisiana to influence how future financial support for dual enrollment programs is dispensed.

The target group of this research project is 2008 high school graduates of Louisiana public or private schools who participated in dual enrollment programs offered through their high schools. If you do not meet these requirements, please do not complete a survey form.

Your signature on the attached consent form indicates that you are willing to voluntarily participate in this study. Please sign and return the consent form with your completed survey. Participant responses will be protected as confidential information. Any writings or presentations as a result of this research will report only numerical data that cannot be used to identify individual participant's responses. Please answer each item honestly and to the best of your ability and understanding.

I am aware of the demands upon your time as a first-year postsecondary student, particularly as the end of the semester approaches. The 21-item survey will take approximately 10 to 15 minutes to complete. Your information and opinions about dual enrollment participation are of great value to me and to this study. I look forward to receiving your valuable input, and I thank you in advance for your time and your willingness to participate in this survey.

Your prompt response is greatly appreciated. If you have any questions regarding this project, you may email me at msb036@latech.edu.

Sincerely,

Marby S. Barker
Doctoral Assistant
Curriculum, Instruction, and Leadership
Louisiana Tech University
Ruston, LA 71272

APPENDIX C

HUMAN SUBJECTS CONSENT FORM

HUMAN SUBJECTS CONSENT FORM

The following is a brief summary of the project in which you are asked to participate. Please read this information before signing the statement below.

TITLE OF PROJECT: An Investigation of Dual Enrollment Participant Characteristics That Contribute to Post-secondary Success

PURPOSE OF STUDY/PROJECT: To identify dual enrollment participants' characteristics which enhance post-secondary success.

PROCEDURE: Students will be asked to complete an online survey rating their experience with dual enrollment courses. Permission will be requested to access student's cumulative high school grade point average, ACT scores, and first quarter grade point average during enrollment at Louisiana Tech University.

INSTRUMENTS: The National Alliance of Concurrent Enrollment Partnerships "First Year Out" Survey.

RISKS/ALTERNATIVE TREATMENTS: The participant understands that Louisiana Tech is not able to offer financial compensation nor to absorb the costs of medical treatment should you be injured as a result of participating in this research.

The following disclosure applies to all participants using online survey tools: This server may collect information and your IP address indirectly and automatically via "cookies".

BENEFITS/COMPENSATION:

I, _____, attest with my signature that I have read and understood the following description of the study, "An Investigation of Dual Enrollment Participant Characteristics That Contribute to Post-secondary Success", and its purposes and methods. I understand that my participation in this research is strictly voluntary and my participation or refusal to participate in this study will not affect my relationship with Louisiana Tech University or my grades in any way. Further, I understand that I may withdraw at any time or refuse to answer any questions without penalty. Upon completion of the study, I understand that the results will

be freely available to me upon request. I understand that the results of my survey will be confidential, accessible only to the principal investigators, myself, or a legally appointed representative. I have not been requested to waive nor do I waive any of my rights related to participating in this study.

Signature of Participant or Guardian

Date

CONTACT INFORMATION:

The principal experimenters listed below may be reached to answer questions about the research, subjects' rights, or related matters.

Marby S. Barker
318-257-2966
msb036@latech.edu

Members of the Human Use Committee of Louisiana Tech University may also be contacted if a problem cannot be discussed with the experimenters:

Dr. Les Guice (257-3056)
Dr. Mary M. Livingston (257-2292 or 257-4315)

APPENDIX D

HUMAN USE COMMITTEE APPROVAL

MEMORANDUM

TO: Ms. Marby Barker
FROM: Barbara Talbot, University Research
SUBJECT: HUMAN USE COMMITTEE REVIEW
DATE: April 9, 2009

In order to facilitate your project, an EXPEDITED REVIEW has been done for your proposed study entitled:

**“Dual Enrollment participation as a
Catalyst for Post-secondary Success”
HUC-638**

The proposed study's revised procedures were found to provide reasonable and adequate safeguards against possible risks involving human subjects. The information to be collected may be personal in nature or implication. Therefore, diligent care needs to be taken to protect the privacy of the participants and to assure that the data are kept confidential. Informed consent is a critical part of the research process. The subjects must be informed that their participation is voluntary. It is important that consent materials be presented in a language understandable to every participant. If you have participants in your study whose first language is not English, be sure that informed consent materials are adequately explained or translated. Since your reviewed project appears to do no damage to the participants, the Human Use Committee grants approval of the involvement of human subjects as outlined.

Projects should be renewed annually. *This approval was finalized on April 6, 2009 and this project will need to receive a continuation review by the IRB if the project, including data analysis, continues beyond April 6, 2010.* Any discrepancies in procedure or changes that have been made including approved changes should be noted in the review application. Projects involving NIH funds require annual education training to be documented. For more information regarding this, contact the Office of University Research.

You are requested to maintain written records of your procedures, data collected, and subjects involved. These records will need to be available upon request during the conduct of the study and retained by the university for three years after the conclusion of the study. If changes occur in recruiting of subjects, informed consent process or in your research protocol, or if unanticipated problems should arise it is the Researchers responsibility to notify the Office of Research or IRB in writing. The project should be discontinued until modifications can be reviewed and approved.

If you have any questions, please contact Dr. Mary Livingston at 257-4315.

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