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Effectiveness of Introduction to College GE-100

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EFFECTIVENESS OF INTRODUCTION TO COLLEGE GE-100

A Thesis
Presented to
The Faculty of the Department of Architectural and Manufacturing Sciences
Western Kentucky University
Bowling Green, Kentucky

In Partial Fulfillment
Of the Requirements for the Degree
Master of Science

By
Charles Johnson

December 2011

EFFECTIVENESS OF INTRODUCTION TO COLLEGE GE-100

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I dedicate this thesis to my family, Gayle, Sierra, Charles, Landon and Jalen, who are a great inspiration in my life. Also, I dedicate this work to my mentor and colleague Dr. Joseph Yazvac, who helped greatly in inquiring the data and editing this manuscript.

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EFFECTIVENESS OF INTRODUCTION TO COLLEGE GE-100

Charles Johnson

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42 Pages

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In 2008, the excitement to teach the class, Introduction to College to new students who are beginning college, was greatly accepted with much reservation. Numerous memories reflected back to that special period when the writer was faced with those daunting decisions of where to attend college. Those memories of excitement and fear of being away from home the very first time, starting college life, meeting new friends, and what career path to choose, were difficult decisions during that transitional time. Orientation class back then consisted mainly of a half day spent touring the college campus and listening to various speakers; if you could stay awake.

The scope of this study will be to assess the effectiveness of Introduction to College (GE-100), on student GPAs and “persistence-to-graduation” rates as measures of success. In the course, the student will learn about the variety of support services available at the college, the behaviors necessary to be successful in college, and issues that relate to choice of major and/or careers.

This study used a quantitative approach utilizing an ex-post facto longitudinal design that measures student grade point averages (GPA) and persistence-to-graduation rates for the five- year period from the Fall Semester of 2003 through the Spring Semester of 2008. Overall, at the conclusion, the results indicated that GE-100 students

had significantly higher GPAs and significantly greater persistence- to-graduation rates over a five year period when compared with student who did not take or complete (GE-100).

CHAPTER 1

INTRODUCTION

Community colleges are uniquely American in their genesis and are founded on democratic traditions (Wattenbarger & Albertson, 2004). Historically open admission institutions, their purpose has evolved far beyond providing the first two years of a bachelor's degree (Milliron & Wilson, 2004). Community college missions now include preparing students not only for transfer to four-year institutions, but for vocational education, contract education for local employers, remediation of basic skills and community services as well (Gooden & Matus-Grossman, 2002).

In his State of the Union Address, former President George W. Bush noted the “gap between the workforce skills needed to enhance local markets and the current skills of the local workforce” (Bush, 2004, 86). He recognized the enormous importance of community colleges in closing the gap to meet the workforce needs. With the economy in turmoil, educational institutions, like industries and retailers, are working harder to obtain consumers business. Just as stores are designed to get people to spend more and retailers are making it easier to get in and out quickly, educational institutions are making it more convenient for people of all ages to obtain their degrees in more of a non-traditional classroom setting.

According to Jenkins (2002), community colleges serve as a major vehicle to prepare people for the workforce. In 2010, President Obama announced the creation of two new competitive grants for community colleges as part of his continuing efforts to reshape community colleges to meet the changing needs of the American economy; the

Bill & Melinda Gates Foundation's "Completion by Design" and the "Aspen Prize for Community College Excellence" programs. The announcement of these two programs follows Obama's launch of the "Skills for America's Future" program, a partnership between community colleges and employers to assist students in developing job-based skills. "The goal is to ensure that every state in the country has at least one strong partnership between a growing industry and a community college." (Johnson, 2010, p. 1). With employer's needing increasing numbers of knowledgeable workers to remain competitive, these institutions are a significant player in the economic development of their local communities. "Without universal and lifelong access to the benefits of a college education, the nation simply will fail to meet the social and economic challenges of the years ahead." (Ruppert, 2003, p. 7).

According to Shults (2008), community colleges operate at the nexus of traditional higher education and workforce preparation. They are bound by service to constituencies at the local, state, societal and global levels, and serve diverse and often underprepared student populations. They are guided not by one or even two missions, but typically by multiple missions including, but not limited to, providing traditional academic programs; workforce development; adult and basic education; noncredit, lifelong, and life enhancement education; and often dual-enrollment opportunities for high school students.

According to Perez (2004), community colleges, because of their flexibility and their ethos of developing partnerships with the business community, are the institutions best suited to help workers acquire new skills quickly. Many community colleges have already established their niche within the past 30 years as local economic engines;

however, this role will be expanded exponentially in the coming years as entrepreneurship, boundary-spanning development and a global job market will change whom colleges and local communities collaborate and compete with for their customers. Future enrollments in community colleges are projected to increase between 2000 and 2015 both because of demographic changes and increasing percentages of the population will pursue higher education for the opportunities they offer (Boswell, 2004).

Community colleges enroll almost half of American undergraduate students. They also attract high proportions of low-income, first-generation college students and students of color, populations typically underserved by higher education (American Association of Community Colleges, 2005; Townsend, Donaldson, and Wilson, 2005). Colleges and universities also educate returning veterans. Large-scale funding for veterans' pursuit of higher education began with the initial GI Bill (Servicemen's Readjustment Act of 1944). GI Bill educational benefits funded training and postsecondary education for all qualified veterans, and 2 million of the 14 million eligible World War II veterans had used their GI Bill benefits for postsecondary education by 1950. The GI Bill led to accelerated expansions of colleges and universities, broadened higher education access, and ushered in student diversity (Rumann & Hamrick, 2010).

Whether a person just graduated from high school or has been out of the classroom for decades, students new to higher education immediately face many differences between secondary and post-secondary education. According to Ellis (2006), students entering higher education experience a major change in their life. They have joined a new culture with its own set of rules, both spoken and unspoken. Some examples include:

1. New academic standards: Often there are fewer tests in higher education than in high school, and the grading might be tougher. At the same time, the instructors might give the student less guidance about what or how to study, and less feedback about how you are doing.
2. Differences in teaching styles: Instructors at colleges, universities, and technical schools are often steeped in their subject matter. Some professors might seem more focused on research than on teaching.
3. A larger playing field: The institution a student just joined might seem immense, impersonal, and even frightening. The sheer size of the campus, the variety of courses offered, the large number of departments-all of these can add up to a confusing array of options.
4. More students and more diversity: The school a student is attending right now might enroll hundreds or thousands more students than their high school. And the range of diversity among these students might surprise them (Ellis, 2006. p.9).

Consequently, while there is an opportunity for students who access post secondary institutions to succeed and while community colleges have long been committed to and have made significant gains in providing the access needed for underserved populations, access alone does not always translate into success. Nonetheless, college and career readiness standards are vital to ensuring that U.S. students are taught the rigorous skills they need to compete with peer and other high performing countries around the world. According to Gardner & Jewler (2005), students who have attained essential college and career readiness skills are more likely to have success in postsecondary education. While it is a step in the right direction for a person to choose college, it remains a sad fact that many entering students drop out or fail.

According to Crzadkiewicz (2011), approximately 35 percent of students who enter college will drop out during the first year. Moreover, according to a 2005 report

issued by the Education Trust, a Washington-based nonprofit group, only 63 percent of students who enroll in a four-year university will earn a degree, and it will take them an average of six years to do so. The other 37 percent will either drop out of college before finishing or else flunk out of their programs of study.

Problem Statement

Introduction to College (GE-100) is a class offered by Owensboro Community & Technical College (OCTC) designed to promote student success. It addresses support services, behaviors necessary to be successful in college and issues regarding choice of major or career. Although success in GE-100 is intended to contribute to success in the community college and by extension, success in the local workforce, there is little evidence regarding its impact on student success. Consequently, if this research can show students are more academically successful as a result of GE-100, follow up research can determine whether their academic success translates into success in the workplace.

Significance

The scope of this thesis assess the effectiveness of GE-100: Introduction to College, on student GPAs and “persistence-to-graduation” rates as measures of success. The 2008-2009 college catalog course description for GE-100 states that the new college student is introduced to college and college life. “The student will learn about the variety of support services available at the college, the behaviors necessary to be successful in

college, and issues that relate to choice of major and/or career. Specific strategies to ensure successful college experiences are emphasized” (KCTCS, 2008-2009. p. 252).

The researcher will use a quantitative approach utilizing an ex-post facto longitudinal design that measures student grade point averages (GPA) and persistence-to-graduation rates for the five-year period from the Fall Semester of 2003 through the Spring Semester of 2008.

Limitations

These data will be limited to Owensboro Community & Technical College students. Accordingly, some limitations that could hinder this thesis:

1. The generalizability of the results may be limited.
2. The longitudinal design utilizing existing data. No controlled manipulation of variables in an experimental procedure will occur and student outcomes will be measured within their real life circumstances rather than in randomly assigned groups.
3. Demographic data inclusive of gender, race, or age has not been collected. Therefore, no demographic differences in GPA or persistence-to-graduation rates can be studied.
4. These data collected were without individual subjects identified; no follow-up research with these same subjects can take place. Nevertheless, further research could follow-up with a different data query, but not all subjects would match.

Assumptions

Created by the Postsecondary Education Improvement Act of 1997, the Kentucky Community and Technical College System (KCTCS) consist of 16 two-year colleges intended to provide quality postsecondary education and workforce training. In this regard, KCTCS colleges are committed to making education accessible, relevant, and responsive to the needs of students, employers, and communities. The mission of the Kentucky Community and Technical College System is to improve the quality of life and employability of the citizens of the Commonwealth by serving as the primary provider of the following postsecondary education programs, training and services:

- Certificates, diplomas, technical degrees, associate degrees and training programs
- Workforce training to meet the needs of existing and new businesses and industries
- Remedial and continuing education
- Short-term, customized training for business and industry in adult educational classes
- Adult education
- Associated services (KCTCS, 2009. p. 4).

Although incoming freshmen are encouraged to enroll into GE-100, not all do. Students are enrolled or not enrolled at the discretion of various advisors. Consequently, students will not be randomly assigned into the group that enrolls into GE-100 or does not.

If this research supports the notion students who complete GE-100 have greater GPA's and persistence-to-graduation rates, not only will more students take an interest and enroll, more faculty advisors will advise students into the class. Henceforth, more students will be successful.

Hypotheses

In this research, a quantitative approach will be utilized in accordance with the following hypotheses:

1. **Longitudinal Research:** The research will analyze past data over a five-year period from the 2003-2008 Freshman Class cohort. It will address the following research questions.

1. Does Introduction to College (GE-100) have an effect on grade point average (GPA)?
2. Does Introduction to College (GE-100) have an effect on five-year persistence-to-graduation rates?

The following are the research hypotheses:

1. GE-100 has an effect on grade point average (GPA) as measured by the final GPAs of Fall 2003 freshmen students within a five-year period.

2. GE-100 has an effect on five-year persistence-to-graduation rates as measured by the graduation rates of Fall 2003 freshmen students within a five-year period.

The following are the null hypotheses:

1. GE-100 does not have an effect on grade point average (GPA) as measured by the final GPAs of Fall 2003 freshmen students within a five-year period.
2. GE-100 does not have an effect on 5-year persistence-to-graduation rates as measured by the graduation rates of Fall 2003 freshmen student within a five-year period.

Definitions of terms

1. **GE-100**-Introduction to College. A course offered by OCTC whereby the new college student is introduced to college and college life. The student will learn about the variety of support services available at the college, behaviors necessary to be successful in college, and issues which relate to choice of major and choice of career. Specific strategies to ensure successful college experiences are emphasized.

2. **GPA** – The grade point average of students determined by dividing the number of quality points based on a 4.0 scale earned by the number of semester hours attempted for all college-level classes. Quality points are computed by multiplying the number of semester hour credits for courses in which a grade is earned. For example, 4=A, 3=B, 2=C, 1=D, and 0=F.
3. **KCTCS**-Kentucky Community and Technical College System. The higher education system in Kentucky whereby quality postsecondary education and workforce training are provided. KCTCS colleges are committed to making education accessible, relevant, and responsive to the needs of students, employers, and communities.
4. **Persistence-to-Graduation Rate** – The proportion of students who persist in college until they graduate within a five-year period.
5. **FYE**-First year experience.

CHAPTER 2

REVIEW OF LITERATURE

There has been surprisingly little research on institutional effectiveness at community colleges. Even the much larger body of research on institution effectiveness among baccalaureate-granting institutions tells more about student characteristics (e.g., placement test scores) and institutional features (e.g., selectivity, size, resources) associated with positive student outcomes than it does about the actual policies and practices affecting student success that are under a college's control (Bailey & Alfonso, 2005). As cited in the *Community College Journal of Research and Practice*, numerous studies show, for example, that colleges and universities enrolling better prepared students tend to have better student outcomes (Astin, Tsui, & Avalos, 1996; Mortenson, 1997; Pascarella & Terenzini, 1991; Porter, 2000; Ryan, 2004; Scott, Bailey, & Kienzl, 2006; Titus, 2004). This finding shows the significant influence that student characteristics have on student outcomes, but it leaves open the question of what institutions can do to promote success among their students.

The community college has been part of the postsecondary picture for over a century in the United States. Originally created to serve the function of delivering lower-division course work to university students, they were viewed as junior colleges (a name preserved by a few institutions today) and were often private. However, states soon entered the business of two-year postsecondary education. "Organizationally, most of the early public community colleges developed as upward extensions of secondary schools" (Cohen & Brawer, 2003, p. 8).

As institutions have become more focused on enrollment management, resources have often been devoted to admission and alumni relations, but not as much to student success outcomes in the middle of the student life cycle (Shaver, 2006). Admissions officers and college promotional media play a critical role in setting the stage for student expectations. Tinto (1993) states, “The beginning of the sequence of events leading to student departure can be traced to students’ first formal contact with the institution, namely their recruitment and admissions” (p. 154). Insofar as student engagement is a factor in student success, including engagement as student effort and academic challenge, then admissions officers have a responsibility to be clear about the expectations their institutions hold for students-including, if not especially, at open admission institutions.

While emphasizing what a college education buys a student in terms of future earnings or the many opportunities students have to make new friends and have fun, it remains unwise and short-sighted for admission officers to present these as the most salient features of attending their institutions. Students must be prepared to face more realistic expectations. To prepare students more effectively for success, the Council for the Advancement of Standards in Higher Education has published guidelines for admission programs that include helping students set realistic expectations for what is required of them (Miller, 1999).

Roman (2007) suggests admission officers might recommend early on students take a college success class, pro-actively take advantage of tutoring and library services, and engage available advising and career planning resources. Admission officers might also engage students in conversations about what they already know of the educational requirements of the professions students’ state they intend to pursue and then procure

information about those requirements as well as those of related alternative professions. Introducing students to institutional career development resources or encouraging them to take a career and life planning course can also help students understand what is expected of them. It is evident, admission staff can also encourage students to be involved or engaged in the activities and services which will help them to be successful, whether those are limited primarily to class activities and support services or extend beyond into student life and community service.

Although, from the student's perspective, retention is important for the simple reason that college pays in the long run. For example, according to Day & Newburger (2002), lifetime earnings for someone with a bachelor's degree were estimated to be nearly twice of someone with only a high school diploma. For institutions, moreover, revenue from tuition and fees, as well as from government subsidies for public institutions, is contingent upon good retention. A low retention rate means a college is always using resources which could be used elsewhere to replace students who leave. In addition, if students leave before graduating, they are not likely to become donors to their former schools. Given that students cannot graduate if they are not retained early on, student retention has become one of the most analyzed success outcomes in higher education. One such publication is the annual U.S. News and World Report on College Rankings. In this report, an institution's retention rate carries a weight of 20% to 25% of the ranking process (U.S. News & World Report 2008). Therefore, higher retention rates improve national and regional rankings and are therefore extremely important to recruitment efforts (Porter & Swing, 2006). The benefit is the more a university recruits better students, the more likely they are to have a higher retention rate. The higher an

institution's retention rate becomes, the more competitive they will be in recruiting top students.

According to Jamelske (2008), many institutions have begun to allocate significant resources to the first year experience (FYE) in an effort to improve student outcomes. First year experience programs vary widely across institutions ranging from highly organized learning communities to basic courses introducing students to college life. Although there is a growing literature on the evaluation of FYE programs, the results are mixed. Each analysis is specific to the particular institution, student body and program under study. There are significant differences between public and private colleges, between large and small colleges, and between those that focus on teaching as opposed to research. Some campuses are urban while others are suburban or rural and some have significant on campus housing while others do not. In summary, both the institutional characteristics and the types of FYE programs being implemented vary greatly.

Programs

In 1997 one particular medium-size Midwestern public university initiated a FYE program (p. 373). The program was designed to add both curricular and extracurricular components to existing core courses in an effort to integrate students into the university community. There has never been an organized and thorough evaluation of this FYE program. Past assessments were incomplete and consisted mainly of qualitative data from student surveys. These data show students generally responded positively about their FYE course experience, but this is not enough to justify the resources devoted to this

program over the last decade. Specifically, the fall 2006 FYE budget for the program was \$237,700. Given this major expenditure and lack of information on program outcomes, university administrators called for a detailed program assessment.

Formal FYE program goals:

- Introduce students to a liberal education and awaken intellectual curiosity.
- Enhance skills needed for academic success: reading, writing, speaking, listening, thinking inquiry and analysis, use of information technology, library skills, and time management.
- Strengthen student connections to the University.
- Engage students in meaningful academic and non-academic out-of-class activities.
- Enhance student accountability for their education.

The intended design of this program was to infuse core courses with added curricular and extracurricular activities to integrate students into the university community. At times the program presented a challenge because of the significant work needed to integrate these curricular additions without compromising the original course. For example, outside time commitment for extracurricular activities by instructors and there were no specific rules or procedures to hold instructors accountable for participation. There was no formal application process for selecting FYE classes' faculty and neither the individual departments, nor the university placed added value on performance reviews for teaching FYE (Jamelske, 2008).

According to Noonan, Sedlacek & Veerasamy (2005), admissions to colleges and universities remain one of the most important functions in higher education. This function is commonly separated in policy and practice from advising, particularly post-matriculation academic advising. If admissions and advising can be coordinated, however, the effect on students and the campus climate can be profound. For example,

while many community colleges have open admissions, more students from diverse backgrounds seek admissions; more institutions have to reexamine their admissions policies in the context of how they provide advising. As community colleges have more applicants, some programs have turned to selective admissions and good post-matriculation advising that has utilized more useful assessments than the typical measures of prior high school grade-point average (GPA).

While community college programs require a certain level of academic preparation, regardless of where a student may start, it is evident that community colleges feel obligated to help ensure that students can persist and complete their education successfully. Along with an increase of diverse students attending community colleges, there is also an increased number of individuals coming to college unprepared (Smittle, 1995).

According to Sternberg (1986), research conducted offers compelling reasons to look beyond cognitive predictors of academic performance when making admissions decisions. The author suggested that intelligence can be shown in three ways. The first, componential, or analytic intelligence is the ability to interpret information in hierarchical and taxonomic fashion in a well-defined and unchanging context. It is associated with traditional educational and social experiences. People who do well on standardized tests and have high precollege GPAs tend to have this type of intelligence. The second, experiential intelligence, involves the ability to interpret information in changing contexts; for example, problem solving and decision making. Lastly, contextual intelligence is the ability to adapt to a changing environment, i.e., the ability to handle one's environment and negotiate the system.

While programs addressing the success of entering students abound, there remains little evidence in the literature that confirms that they are working as intended.

Nonetheless, several programs are worthy of mention.

The McNeill Program at the University of Colorado at Boulder is one of a number of academic communities to provide a singular and tailored educational experience to incoming first-year students through their second year. The program's strategic objective is to maximize the academic potential and achievement of their population of nontraditional students. Throughout the program, the aim is to provide students with the structure and background necessary to successfully complete college classes through student orientation and staff mentoring (Mendez, 2006). McNeill, however, is not a typical academic community; in fact, it is unique in several respects. Unlike other academic programs, McNeill is not residential. It serves 150-200 new students every year, making it the largest of a number of academic initiatives of the Learning, Excellence, Achievement, and Diversity (LEAD) Alliance. The Alliance is a pan-university combination of projects dedicated to improving the quality of education for diverse populations of students. McNeill serves primarily low-income (65% to 75 %) and first-generation (55% to 65 %) students, rural and inner-city high school graduates, and students with disabilities. Most McNeill students are ethnic minorities (80% to 85 %), and their Predicted GPA (PGPA) median is 2.4, compared to a university-wide PGPA median of 2.9. Hence, McNeill students usually come from the lowest quartile of their entering first-year class (Davis-Rosenthal, Pacheco, & Wilson 2004). This program proved to benefit the students by offering a promising model to help nontraditional and

“at-risk” students make a successful transition from high school to the rigor of academic life at a public, research university.

The Basic Skills Initiative in California is a state-funded project developed for planning professional development, research projects, and activities to help our colleges better prepare our students for success. Its goals include promoting research and data collection, professional development in effective practice, student equity, the transition from high school to college, and information through web enhanced classes and electronic sharing. This project is designed for all of the institutions in the state. Like the others, increased success for students is the central goal (Basic Skills Initiative Newsletter, 2008).

According to Bueschel (2008), the Strengthening Pre-Collegiate Education in Community Colleges (SPECC) project, an effort of the Carnegie Foundation for the Advancement of Teaching and the William and Flora Hewlett Foundation, takes a different focus on improving developmental courses. The project uses the idea of faculty inquiry as a starting point. It has worked closely with faculty members at eleven community colleges and encouraged them to ask questions about their teaching and their students’ learning.

The inquiry can be a teaching community committed to meeting regularly to question, discuss, and try to address a specific issue (for example, what foundational mathematics skill most elementary algebra students stumble on), or a research question that a faculty member wants to explore after noticing a pattern in their classroom (the students who drop out late in the term are not necessarily the ones with the lowest grades to that point) (Bueschel, 2008).

Many students in higher education are busier than they've ever been before. Often that is due to the variety of extracurricular activities available to them, for example; athletics, fraternities, sororities, student newspapers, debate teams, student government, and many more. Furthermore, persistence is a concept that is difficult to measure because the student may leave in good standing to explore other more immediate goals, i.e., raise a family, obtain employment, or reach for other personal objectives (Grimes & David, p. 467).

There are many more examples of approaches which address courses and programs designed for early intervention into student success, but the larger point is this; while colleges help students succeed throughout their college program, there is little in the literature to confirm they actually do.

Success

There are many ways to measure results in college. According to Barr & Tagg (1995), colleges across this land have developed powerful strategies for improving student performance by focusing much of their effort on a student's experience in their transition to college, both in the classroom and in the system and processes of induction into the college.

In 2002, Valencia Community College in Orlando Florida generated new theories for improving student performance. Extensive conversations warranted by data and best practices from the professional literature stimulated new initiatives such as Start Right. This initiative was designed to ensure that students experience extraordinary success in

their earliest encounters with the college as a solid foundation for success in future learning.

The researcher for this study observed this process firsthand in February 2007 while conducting some cross-training at Valencia Community College for the counseling department. Valencia implemented LifeMap, a developing model that promotes social and academic integration, education, career planning, and acquisition of study and life skills. Students learn at the beginning, LifeMap describes what they should be doing within each of five stages of their academic development. Each stage of the model includes an outcome, performance indicators, and guiding principles that tie it to “best practices” within the literature. The five stages are:

- College Transition
- Introduction to College (0-15 credit hours)
- Progression to Degree (16-44 credit hours)
- Graduation Transition (45-60 credit hours)
- Lifelong Learning (learning beyond a first degree).

The experience at Valencia indicates a focus on the beginning of the program, on creating strategies and environments that increase student engagement, holds great promise for significant improvements in student performance throughout the student’s college experience. These approaches were successful for Valencia because they were built on collaboratively developed theories that go deeper than mere best practices and they had support from all faculty and staff (Sanford & Romano, 2008).

According to Jamelske (2008), in 2007 the average retention rate among all U.S. institutions of higher education from first year to second year was 68.7%. Within this national average, retention was significantly lower among 2 year schools compared to 4 year schools. Similarly, retention at 4 year private institutions was somewhat higher than

at 4 year public institutions. Given that students cannot graduate if they are not retained early on, student retention has become one of the most analyzed outcomes in higher education.

According to Grimes & David (1999), getting off to a good start and finishing well are critical to student success and adjustment and are points of transition. In the middle of their curricula, students are often exploring other issues; for example, raising a family, obtaining employment or reaching for other personal objectives. Persistence as an indicator of student success, therefore, is a concept that is difficult to measure. Nonetheless, the best indicators of student success are those that go beyond the anecdotal to a place where data is subject to more rigorous testing and conclusions are more quantifiable.

CHAPTER 3

RESEARCH METHODOLOGY

The site of this study will be Owensboro Community & Technical College, which resides in a rural community of Daviess County, Kentucky, with a population of 95,394 (U.S. Census Bureau, 2009). Introduction to College (GE-100) is a class offered by Owensboro Community & Technical College that promotes support services, behaviors necessary to be successful in college and issues regarding choice of major or career. The scope of this thesis is to assess the effectiveness of GE-100, Introduction to College, on student GPA's and "persistence-to-graduation" rates as measures of student success. This study will examine the effectiveness of GE-100 regarding grade point average (GPA) and five-year persistence-to-graduation rates of the 2003 freshman class cohort over a five year period ending with the Spring Semester 2008.

This research will analyze past data ranging throughout a five-year period from the 2003-2008 Freshmen Class cohort. According to the Council on Post Secondary Education (CPE) (2010) Owensboro Community & Technical College Fall 2010 breakdown, the 2000-2010 selected trends data reported the following demographic characteristics for this cohort:

The fall 2003-2008 male population for OCTC was 46.5%, while females accounted for 53.5% of the total population. American Indians and Alaskan Natives accounted for 0.1%, Asians or Pacific Islanders 0.4%, Black Non-Hispanics 2.8%, Hispanics 0.7%, Non-Resident Aliens 0.0%, Unknown persons, 7.3%, and White Non-

Hispanics, 88.5% (Kentucky Council on Postsecondary Education, 2010). The OCTC population is predominately white and rural.

General Procedure

Since the research will not manipulate subject variables, but will analyze collective data from a data base, the subjects will not be contacted. The freshman class GPAs for the fall semester 2003-2008 cohort will comprise the subject selection. Since data will be comprised of GPAs from the fall 2003-2008 de-identified freshman class cohort, no consent is necessary. The researcher will draft a letter to the office of the Vice President of Student Affairs and Vice President of Academics discussing the nature and confidentiality of the thesis, which includes the sample size of 472 students enrolled in GE-100.

All information gathered will be obtained at Owensboro Community & Technical College. The data base software used is PeopleSoft, which is utilized throughout all the Kentucky Community & Technical College System. Existing data will be used from the calendar years 2003-2008. All information, including data, materials, technology, software, and other information disclosed or submitted, orally, and/or in writing will be treated as confidential. Data obtained will not include identifying data such as subjects' names or other demographics. All information related to the students will remain anonymous and will be used solely for the purpose of this study.

Raw data containing confidential information will be securely stored in the Faculty Sponsor's office for three years and subsequently destroyed. Confidential

information will not be duplicated by the researcher or stored in any enduring digital format. These data stored are without individual subjects identified, thus, no follow-up research with these same subjects can take place. Information about positive results can offer students a better understanding of Introduction to College, and contribute to the continued success of the GE-100 program.

For this study, the researcher will use a quantitative approach utilizing a longitudinal research design with ex-post facto comparative research measuring student grade point average (GPA), fall to spring retention rates, and persistence-to-graduation rates over a period of five years. The hypotheses tested will be the following:

1. GE-100 has an effect on grade point average (GPA) as measured by the final GPAs of Fall 2003 freshman students within a five-year period.
2. GE-100 has an effect on five-year persistence-to-graduation rates as measured by the graduation rates of Fall 2003 freshmen students within a five-year period.

New freshmen will be selected based on their enrollment status in GE-100. None will be randomly assigned. The assumption of equal variance for the t-test of the difference between means for the GPAs, therefore, may be violated and in that case will be evaluated by Levene's Test for Equality of Variance so appropriate compensatory statistics can be utilized in the analyses. According to Nordstokke & Zumbo (2007), Levene's test is used to assess variance homogeneity, which is a precondition for parametric tests such as the t-test. The test can be used with two or more samples. With

two samples, it tests the homogeneity of variance for the t-test. Levene's test works by testing the null hypothesis that the variances of the groups are the same. The output probability is the probability that at least one of the samples in the test has a significantly different variance. If this is greater than a selected proportion (usually $p > .05$) then it is considered too great to be able to usefully apply parametric tests (Nordstokke & Zumbo, 2007, p.1-14 1).

The researcher will perform a t-test of the difference in mean GPA between new freshmen students who took and completed GE-100, and new freshmen students who did not. The t-test is used for testing differences between two means. According to Wielkiewicz (2000), in order to use a t-test, the same variable must be measured either in different groups, at different times, or in comparison to a known population mean.

Using a Chi-square analysis, the researcher will also compare five-year graduation rates of students who took and completed GE-100 with five-year graduation rates of students who did not take or complete GE-100. The use of Chi-square (χ^2) is

to test the independence of two variables on which frequency data are available. Chi-square analysis is appropriate when data occur as observations classified into categories and the frequencies in each category are counted (Spatz, 1997).

Chi-square (χ^2) is a sampling distribution that gives probability about

frequencies. In this case, the Chi-square distribution will provide the probability for

decision making about the difference between 5-year graduation rates of GE-100 completers and non-completers.

The researcher will use an alpha value of .05 for both the null hypotheses. According to Simon (2005), alpha is the probability of making a Type 1 error (rejecting the null hypothesis when the null hypothesis is true) (Simon, 2005). The researcher will want this value to be small but not too small, so in an experiment, a sample size is large enough, and a decision rule is selected so that the probability of falsely rejecting a null hypothesis is less than .05.

CHAPTER 4

ANALYSIS OF RESULTS

To analyze the results of this study, a query of the Owensboro Community & Technical College database produced an anonymous listing of the new freshman cohort of students beginning the Fall Semester of 2003. There were 472 students in the population, 115 of which took and completed GE-100 and 357 who did not. In the real-life condition, homogeneity of variance cannot be assumed because the assignment of student subjects into each group is always rather haphazardly selected by various advisors with differing priorities regarding the scheduling of GE-100 for new freshmen. Therefore, since subjects in the true-life condition were not randomly assigned, Levene's Test for Equality of Variances was conducted and the compensations were utilized in the analysis.

To address the first hypothesis as to whether GE-100 had an effect on GPA, the final GPAs of new freshmen who had completed GE-100 and those who had not were subjected to a *t*-Test comparing the difference between means. To address the second hypothesis as to whether GE-100 had an effect on persistence-to-graduation rates, a Chi-square analysis of five-year persistence-to-graduation rates through the Spring Semester 2008 was conducted comparing new freshmen who had completed GE-100 with those who had not. All statistical analyses were conducted using SPSS-PC.

Hypothesis 1: Grade Point Average (GPA)

The first null hypothesis of this study is that GE-100 has no effect on final grade point average (GPA) as measured within a five-year period. A two-tailed independent subject's *t*-Test was used to test the difference between final GPA scores of new freshmen who completed GE-100 and new freshmen who did not. Since the populations for each group were not randomly selected, a Levene's Test for Equality of Variances was conducted to test whether the variances between groups were equal. Results indicated that the equality in variance between the two groups cannot be assumed ($F=31.734$, $*p=.000$) so Levene's compensatory statistics were used to analyze the results as shown in Table 1.

Table 1

<i>Levene's Test for Equality of Variances/t-test for Equality of Means</i>									
	F	Sig.	t	df	Sig. 2-tail	Mdn	SE	95% CI	
								LL	UL
GPA Equal Variances Assumed	31.734	0	-2.527	470	0.012	-0.31578	0.12494	0.56128	0.07027
GPA Equal Variances Not Assumed	0	0	3.142	303.085	0.002	-0.31578	0.10049	0.51353	0.11803

Note. F = analysis of variances; Sig = significant; t = Students t distribution; a statistical test based on the Student t distribution; df = Degrees of freedom; Mdn = Median; SE = standard error; GPA = grade point average; LL = lower limit; UL = upper limit; CI = confidence error.

Results indicate that the mean GPA for the 115 students who took and completed GE-100 was 2.67 with a standard deviation of .807. The mean GPA of the 357 students who did not take or complete GE-100 was 2.36 with a standard deviation of 1.259 (see Table 2). This difference was statistically significant at alpha level .05 ($t=3.142$, 303.085 d.f., $p = 0.002$; see Table 1), therefore the null hypothesis is rejected.

Table 2

Mean Grade Point Average (GPA) for Students who Took and Did Not Take GE-100

	n	M GPA	SD	SE
Did Not Complete GE- 100	357	2.3558	1.25858	0.06661
Completed GE- 100	115	2.6716	0.80691	0.07524
Total of Students	472			

Note. n = Number of case; M = sample mean, arithmetic average; GPA = grade point average; SD = standard deviation; SE = standard error; GE-100 = Introduction to College. A course offered by OCTC whereby the new college student is introduced to college and college life.

Hypothesis 2: Persistence-to-Graduation

The second null hypothesis of this study is that GE-100 has no effect on persistence-to-graduation as measured within a five year period. A χ^2 chi-square analysis was used to test whether GE-100 and persistence-to-graduation were independent. A significant result indicates that variables are contingent upon each other. The frequencies of students who graduated were compared with students who did not graduate in accordance with the group who took and completed GE-100 and the group who did not take or complete GE-100. Of the 115 students who took and completed GE-100, 34 or 29.57% graduated within five years from the Fall Semester 2003. Of the 357 students who did not take or complete GE-100, 55 or 15.41 % graduated within five years of 2003. This difference was statistically significant at alpha level .05 ($\chi^2= 11.397$, 1 d.f., $p<.001$). The null hypothesis is rejected as shown in Table 3.

Table 3

Persistence to Graduation Rate

	Did Not Complete GE- 100	Completed GE-100	Total of Students
Did Not Graduate	302	81	383
Graduated	55	34	89
Total of Students	357	115	472
χ^2			11.397
df			1
p			<.001

Note. χ^2 = The chi-square distribution; a statistical test based on the chi-square distribution; the sample value of the chi-square test statistic. df = Degrees of freedom; p = Probability; probability of a success in a binary trial. GE-100 = Introduction to College. A course offered by OCTC whereby the new college student is introduced to college and college life.

Overall, the results indicate that GE-100 students had significantly higher GPAs and significantly greater persistence- to-graduation rates over a five year period when compared with student who did not take or complete GE-100.

CHAPTER 5

CONCLUSION

GE-100 is purported to make a difference in the academic success of OCTC students. Accordingly, this research investigated two major success indicators for the student cohort who took and completed GE-100 Intro to College in the Fall Semester 2003. These indicators are GPA and five-year persistence to graduation rates.

An assumption is made often that students who learn early about GE-100 topics, the variety of support services available at their institution and the appropriate strategies for effective studying and research, will have higher measures of academic achievement than students who do not. The accepted measure of this achievement is the grade point average (GPA). There are other variables that impact GPA such as personal motivation or family support. The question that this study asks, therefore, is whether or not GE 100 is an intervention that makes a difference overall in this measure of student academic success regardless of other randomly distributed variables of academic success.

Society, however, is interested in whether such success translates into transitions that contribute back to society in the form of work success and economic participation. In academia, this means graduation, an assertion that a student has been prepared in some way to move from that role to the role of contributor. This study measures, therefore, whether or not GE-100 contributes to a student's persistence to graduation and therefore to society at large.

GPA

Results demonstrated that the difference in GPA for GE-100 students (2.67) was significantly higher ($t=3.142$, 303.085 d.f., $p<.002$) than the GPA of students who did not take or complete GE-100 (2.36). Such a difference indicates that GE-100 likely imposes knowledge and strategies that positively impact the levels of learning experienced throughout a student's college career. With greater learning and knowledge, greater personal and societal outcomes are expected to follow.

Persistence to Graduation Rates

This research also found that among the Fall Semester 2003 cohort of new freshman students, a significantly greater proportion ($\chi^2 = 11.397$, 1 d.f., $p<.001$) of GE-100 students (29.57%) persisted to graduation within five-years compared to the students who did not take or complete GE-100 (15.41%). The significance of this finding might be encouraging to everyone who implements early intervention courses for college success.

Conclusion

Does GE-100 Introduction to College have an effect on GPA? This primary research question was answered in this study and the conclusion was that it does. Results supported the alternative of the first hypothesis.

Does GE-100 Introduction to College have an effect on five-year persistence-to-graduation rates? Results supported the alternative of the second hypothesis as well. So once again, a primary research question was answered successfully.

Overall, therefore, this study successfully confirmed the two primary measures of effectiveness that GE-100 is purported to have on student success and graduating students is expected to have an impact on society that might sometimes surpass a lifetime.

Findings such as these are encouraging and they matter. The implications of this study are useful for planners who desire to make student success a priority at their institutions. Successful new freshman experiences actually are first steps in translating academic accomplishments such as learning and graduation into personal accomplishments like success in the workplace, higher lifetime earnings, and greater contributions to society. Freshmen with an opportunity to assess who they are and explore careers conducive to their interests and personalities...who learn early about the variety of support services available at their institution...and who learn the appropriate strategies for effective studying and research, can and do make a difference not only in their own lives but in the life of the society to which they contribute their learned contributions.

Implications for Future Research

One of the limitations of this study concerns the generalizability of the results. The population of the study included students from a mostly white community college in Kentucky and whether or not the same results would be found in other parts of the

country or among a more diverse population could be addressed by further research. This study could also benefit from an improved design. Conducting research with assigned controlled groups rather than examining results after the fact might reveal a greater number of variables contributing to student success and permit a better examination of demographic variables such as sex and race that may be involved.

Beyond the limitations of the study, however, further research could examine whether or not assumptions about greater GPAs and graduation from college actually do translate into greater workforce development and effectiveness. Some research could focus on personal benefits after graduation such as employment opportunities, satisfaction and remuneration. Other research could focus more on how successful employees who graduate from college make contributions to society differentially from employees who do not. In both cases, an examination of the assumptions about the benefits of higher GPAs and graduation rates would add an important dimension to the research.

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