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THE INFLUENCE OF THE INTRODUCTION OF BACCALAUREATE
DEGREE PROGRAMS ON THE AWARDING OF ASSOCIATE
DEGREES AT PUBLIC COMMUNITY COLLEGES

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

in

The School of Human Resource Education
and Workforce Development

by
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December 2012

To Aiden, Matthew and Lincoln

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understanding and support - more each day.*

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ABSTRACT

Little research has been done to examine how the awarding of bachelor's degrees, by community colleges, influences the traditional associate degree-granting role of these institutions. This quantitative study investigates the impact of this change on the community colleges that have been allowed to award bachelor's degrees, examining how this change affects the traditional associate degree granting output of these institutions. The population for this study is all public community colleges in the United States that offer associate degrees, including those awarding bachelor's degrees. A data query was used to collect the data for this study from the Integrated Postsecondary Education Data System (IPEDS) database. In the full sample, there was a correlation between the number of associate degrees awarded and whether a bachelor's degree was offered. Schools that offered bachelor's degrees tended to have higher numbers of associate degrees awarded. In the subsample of schools that offered bachelor's degrees, there was a moderate positive correlation between the number of bachelor and associate degrees awarded. The number of associate degrees awarded was undiminished by the initiation of a bachelor's degree program at two-year schools. As such, this study may indicate successful higher education marketplace competition, with community colleges evolving to offer bachelor's degrees while successfully continuing their traditional associate degree-granting role. This study indicates that the awarding of associate and bachelor's degrees is not mutually exclusive. The one can be conducive to the other. A successful synergy can be established. The community college bachelor's may make sense as a competitive, market driven response to a societal need. Public community colleges that began to offer, over the last ten years, a four-year baccalaureate degree to meet higher education needs, in addition to the traditional two-year associate degree, are accomplishing this dual mission effectively. This conclusion is supported by the findings of this study and facts in the published literature. More states need to allow community colleges to

offer bachelor's degrees. In this way, the legislatures could recognize the reality of the educational and economic development needs of place-bound, non-traditional students who have increased the demand for localized bachelor's degree programs.

CHAPTER 1: INTRODUCTION

Little research has been done to examine how the awarding of bachelor's degrees, by community colleges, influences the traditional associate degree-granting role of these institutions. Related to this, little literature is focused on measuring the continued awarding of associate degrees, on a multi-state basis, by community colleges that have been allowed to award bachelor's degrees. The studies that have been undertaken previously are primarily qualitative or mixed-method and institutional specific.

The author of this study has employment experience with mission creep at a four-year institution. Louisiana State University Alexandria is a two-year institution that was granted four-year status in 2000, with the actual awarding of bachelor's degrees beginning in 2003. Subsequently, the number of bachelor's degrees awarded by this institution has increased vis-à-vis its number of associate degrees.

As indicated by the review of literature, written or compiled quantitative research is limited regarding the continuing associate degree granting status of two-year with bachelor's schools. No quantitative study was indentified. While institutional research exists in this area, it is mainly focused on the qualitative organizational aspects of allowing community colleges to award bachelor's degrees; little quantitative multi-state research examining the impact of this trend has occurred. Consequently, this quantitative study investigates the impact of this change on the community colleges that have been allowed to award bachelor's degrees, examining how this change affects the traditional associate degree output of these institutions.

While a need exists to provide greater access to bachelor's degrees, policy makers need a fuller understanding of the impact of allowing community colleges to do so. With this knowledge, they can better appraise the overall impact of allowing community colleges to award bachelor's degrees in their respective states. Due to the potential implications on the future of

community colleges, influencing the futures of thousands of individuals, there is a definite need to explore, analyze, and learn more about the impact of awarding bachelor's degrees on those community colleges that do so.

Changing from their historical mission of awarding associate degrees and occupational credentials, some community colleges in the United States have started awarding bachelor's degrees. While a number of higher education leaders see this change as an extension of the community college commitment to access, others see this move as threatening the fundamental core values of this part of higher education (Floyd, Skolnik, & Walker, 2004).

The community college baccalaureate has become the lightning rod for opinions about the future of the community college in America. Those who oppose community colleges offering bachelor's degrees see this trend as potentially destroying the community college, either through damaging its focus on serving students undervalued by other institutions or through changing the institution to a four-year college, as has literally happened with community colleges in states regionally accredited by the Southern Association of Colleges and Schools (SACS). Still others oppose community colleges offering bachelor's degrees because they feel the community college is not capable of offering four-year degrees of the same quality as existing four-year institutions (Townsend, 2005).

Some of the negative implications that Townsend (2005) cites relate to the possible diminution of remedial and transfer education, the possibility that the institution may change from open-access to restricted admission, with newly hired faculty having different values and goals. She also cites the view that additional funding could possibly be better spent on four-year schools rather than supporting "mission creep" at community colleges (Townsend, 2005).

Public institutions at all levels - state systems, universities, and community colleges - are dealing with remarkable problems: increasing expenses, inadequate amounts of degrees granted, value shopping by those they serve, constant complaints by businesses over graduates with inadequate abilities, constrained financial flexibility, and elected officials questioning spending and demanding higher accountability, productivity, and outcomes. With the budgets for higher education under this enhanced scrutiny and undergoing ongoing funding cuts, many legislators and higher education administrators are convinced that they have come up with a way to provide the needed numbers of bachelor's degrees at minimal additional cost. Their solution is to pass legislation allowing their state's existing community colleges to offer bachelor's degrees.

With Florida leading the way, many states have allowed or are contemplating allowing their community colleges to offer bachelor's degrees. The states of Georgia (1997), Oklahoma (2004), Texas (2003), and Connecticut (2005), and 10 others, have already embraced this change, at least in part. In other states, like California and Michigan, it is under review.

Some consider arguments opposing the change as convincing. For one, community colleges may not be able to offer a baccalaureate because they are structurally deficient and may not do as well as four-year schools. A number of individuals feel that a better use of funds would be to improve existing four-year programs rather than supporting mission creep at community colleges. Others argue that the community college baccalaureate is really an inferior degree that the market will not respect, and that universities will not accept for admission for advanced degrees. They believe that the community college baccalaureate may not provide the same intellectual rigor as a baccalaureate from existing four-year schools (Townsend, 2005).

Critics also cite the community college bachelors as creating a blurred distinction between four-year schools and community colleges, and a duplication of services. They say that

community colleges offering bachelor's degrees are involved in mission confusion that will detract from their original purpose and result in lower value bachelor's degrees (Lewin, 2009). They maintain that a lessening of open access and a distorted entrance and starting point for students in higher education are at stake (Wakefield, 2007).

Financial resources in higher education are already deficient. Critics note that community colleges offering bachelor's degrees will need to hire additional faculty and pursue accreditation, when transfer programs already available can easily move students on to a four-year school (Klugerman, 2009).

The issue of permitting and supporting community college baccalaureate programming is a critical matter facing higher education administrators and is fraught with several questions:

1. Are the benefits of allowing community colleges to award bachelor's degrees real or illusionary?
2. Are states which allow community colleges to offer bachelor's degrees really getting a "two-for" – associate and bachelor's degrees – or are they really sacrificing the critically important associate degree granting role of the traditional community college?
3. Where is the proof that community colleges offering baccalaureates will not lose their founding commitment to open access?
4. Where is the evidence that bachelor's degrees at community colleges will not diminish the traditional associate degree-granting role of these institutions (Townsend, 2005)?
5. Finally, will community colleges, as we know them, cease to exist? In Florida, the community colleges, which offer bachelor's degrees, are becoming four-year institutions.

While proponents of the community college bachelors could ask critics about the basis for their concern, the critics may in turn ask the proponents for their proof. This study addresses the limited research in this area.

Purpose of the Study

The purpose of this study is to determine if there is a relationship between the initiation of bachelor's degree programs at public community colleges in the United States, as defined by the Integrated Postsecondary Education Data System (IPEDS), and their level of performance in granting associate degrees. This will be measured by the number of associate degrees granted and the number of associate degrees granted as a percentage of full-time equivalent students. The full-time equivalent (FTE) student measure will standardize a student's actual course load against the normal course load, with normal full time course load defined as fifteen (15) credit hours, or its equivalent, per semester or school term. The question to be answered by the finding is: Does the initiation of bachelor's degree programs at community colleges within the United States affect their level of performance in continuing to grant associate degrees? The study also examines the relationship between community colleges offering bachelor's degrees and their institutional characteristics.

Objectives of the Study

Describe the institutional characteristics for public community colleges in the United States, including:

- Full-time 2009-2010 fall enrollment
- Full-time equivalent 2009-2010 fall enrollment
- Part-time 2009-2010 fall enrollment
- Total Core Expenses per FTE Student

- Instructional expenses as a percent of total core expenses
 - Average salary equated to 9 month contracts of full time instructional staff
 - Total price for in-state students living off campus not with family
 - Percentage of undergraduate students receiving federal, state, local, institutional aid
 - Percentage of undergraduate students receiving Pell grants
 - Percentage of undergraduate students receiving Federal student loans
 - Percentage of Total Enrollment White Non-Hispanic
 - Percentage of Total Enrollment African American Non-Hispanic
 - Percentage of Total Enrollment Hispanic
 - The dependent variable of the total number of associate degrees awarded and the number of associate degrees awarded as a percentage of fulltime equivalent students.
2. Determine if a relationship exists between the above institutional characteristics and the number of associate degrees awarded, as a percentage of full time equivalent students and total number of associate degrees awarded.
 3. Describe associate degrees awarded as a percentage of FTE enrolled, bachelor degrees awarded as a percentage of FTE students, and total number of degrees for each, for public community colleges in the United States.
 4. Determine if a relationship exists between the initiation of bachelors degree programs at two-year with bachelor's institutions in the United States and the number of associate degrees awarded, as a percentage of full time equivalent students and total number of associate degrees.

5. Determine if there is a model that suggests the optimal institutional characteristics to maximize the awarding of associate degrees as a percentage of full time equivalent students. This study will use the potential explanatory variables listed in objective one and the dependent and independent variables listed in objective three (degrees awarded by community colleges).

Significance of the Study

Legislators across the country are considering allowing community colleges to offer bachelor's degrees. Supporters claim that community colleges can offer bachelor's degrees while continuing, unabated, in their mission as a community college. However, in the State of Florida, with a majority of the community colleges now offering bachelor's degrees, we are seeing the disappearance of community colleges, as they become four-year schools (Russell, 2010).

Supporters suggest that adding bachelor's degrees to community colleges would promote enhanced geographic, economic, and academic access to higher education, supply cost efficiencies via the use of current infrastructures, promote success among older or returning college students by means of smaller classes, and supply enhanced class-scheduling choices. They also indicate that this move would improve matriculation and progression for college students with associate degrees, provide students with the ability to maintain family and work relationships, demonstrate the community college commitment to workforce development, and show its responsiveness to community needs (Walker, 2000). Supporters indicate that the schools in Florida, and many other states, can continue in their traditional community college mission. However, there has been no quantitative research specifically focused on whether or not this is the case.

Decisions have been or are being made based on the seeming need for additional bachelor's degrees. With this in mind, legislators are looking around for what they believe to be the most cost-effective means of generating these degrees and have ended up focusing on the idea of allowing their existing community colleges to offer bachelor's degrees. They perceive this to be an inexpensive way to achieve an important need – more bachelor's degrees. However, there has been little to no quantitative research on how doing this affects the traditional and critical associate degree granting role that community colleges play in the United States (Floyd, 2006).

Certainly, the future of community colleges could be at risk if they morph into four-year institutions. To date, the focus of research has been on specific individual institutions, not a more comprehensive approach. If we want to eliminate the historical role of our community colleges, legislators and the public should face this decision squarely up front, with the needed research that details whether or not community colleges that offer bachelor's degrees can continue their historical community college role. However, legislators and the public do not have access to research that focuses on the impact of doing this on the traditional role of the community college. This study addresses this need.

Determining that community colleges are, in reality, ceasing to perform their historical role would give legislators and the public access to this information as they determine if this is the result they hope to achieve - by allowing community colleges to offer bachelor's degrees. On the other hand, determining that community colleges can, in reality, continue to perform their historical role as community colleges, and can also offer bachelor's degrees, then legislators and the public will know that this is an effective means of increasing the number of bachelor's

degrees while allowing the community colleges involved to continue their traditional associate degree granting and related roles.

Definitions of Terms

Accreditation: Accreditation is a voluntary self-regulation and peer evaluation process adopted within the academic community. Institutions of higher education have come together on their own accord to gauge an institution against standards in line with the institution's goals. Non-accredited schools have to be capable of presenting their particular "characteristics of quality" prior to becoming accredited (Southern Regional Education Board, 2011).

Applied Bachelor's Degrees: An applied baccalaureate degree is usually a four-year bachelor's degree earned at two-year institutions of higher education that includes community or technical colleges. It counts technical and affiliate degree-level programs as credits toward a diploma - something not all four-year universities do. The degree usually focuses on applied academics or sciences and technologies to ensure that the student can meet projected workforce demands, needed in areas where workers experience fewer manufacturing jobs, or by employment opportunities eliminated for other reasons.

Community College: An educational institution offering a two-year course of study that is generally the equivalent of the first two years of a four-year undergraduate curriculum.

Community College Baccalaureate (CCB): This term describes the degree granted by postsecondary institutions approved for awarding associate degrees, with the addition of limited baccalaureate degrees in specialized fields (Floyd & Walker, 2009).

Community College Baccalaureate Association (CCBA): The Community College Baccalaureate Association promotes baccalaureate degrees at community college campuses and functions as an information resource regarding community colleges that offer bachelor's degrees.

Full Time Equivalent Student (FTE): The full-time equivalent (FTE) student measure standardizes a student's actual course load against the normal course load, with normal full time course load defined as fifteen (15) credit hours, or its equivalent, per semester or school term.

Governmental Accounting Standards Board (GASB): GASB is an entity that establishes standards in accounting for governmental units comparable to FASB for companies in the private sector. While it has no direct power of enforcement, failure to follow their standards is not a sensible choice for governmental entities since not doing so will have an impact on credit worthiness as well as their capability to gain access to bonds and/or borrowing.

Integrated Postsecondary Education Data System (IPEDS): A compilation of national higher education data prepared annually through the U.S. Department of Education's National Center for Education Statistics. IPEDS gathers information from all higher education institutions that participate in federal financial aid programs. The Higher Education Act of 1965 requires that schools that take part in federal student assistance report comprehensive data on their institutions (National Center for Education Statistics, 2010).

Pell Grants: Federal Pell Grants are awarded to college students primarily based on monetary need; part-time and full-time college students are eligible to qualify. The Federal Pell Grant does not have a minimum grade requirement or other educational prerequisites. Whenever a college student obtains a Pell Grant, the college pays the student directly or credits the individual's school account.

Southern Association of Colleges and Schools (SACS): The Southern Association of Colleges and Schools Commission on Colleges (SACS-COC) functions as an organization for the regional accreditation of colleges and universities in the south. The Commission's mission is the enhancement of educational quality by making certain that colleges meet specified standards

(Southern Regional Education Board, 2011). A SACS-COC accredited institution undergoes a comprehensive review every 10 years. SACS accreditation constitutes a three-tier process; (1) the off-site review of an institution's compliance certification, (2) the on-site review by the accreditation committee; and (3) review by the 77-member SACS board of trustees that will take final action on reaffirmation of accreditation.

Southern Regional Education Board (SREB): Founded in 1969-1970, the Southern Regional Education Board (SREB) is one of the nation's oldest, most comprehensive resources of comparative data on public higher education (Southern Regional Education Board, 2011).

SREB-State Data Exchange: The SREB-State Data Exchange is a collaborative effort of the SREB and statewide education governing and coordinating boards within the South. The Data Exchange yearly collects, compiles, and publishes statistics on post secondary education in the 16-state SREB area, including information by institutional group (Southern Regional Education Board, 2011)

Two year with Bachelor's: Includes institutions that primarily award associate degrees, and offer college transfer courses; some bachelor's degrees are also awarded (Southern Regional Education Board, 2011).

CHAPTER 2: REVIEW OF LITERATURE

Introduction

The mission of the Lumina Foundation is to expand access in education after high school. Established in 2000, it is a private, independent foundation, with assets of over a billion dollars. Lumina ranks among the nation's top 40 foundations. It is committed to increasing the number of students graduating from college. It is the largest foundation in the nation dedicated to increasing student success and access in higher education (Lumina Foundation for Education, 2010).

The Lumina Foundation is continuing its call for an increase in higher education attainment rates, increasing the number of individuals in the population that hold a higher education degree to 60% by 2025. Several other organizations and individuals have taken up "Lumina's Big Goal." In February 2009, Lumina introduced its initial "Stronger Nation" report on higher education attainment within the United States, as well as in individual states (Lumina Foundation for Education, 2010). Partly because of this, the country's discussion about higher education has shifted significantly to the consideration of completion rates.

The Lumina report, "A Stronger Nation", is intended as a status report toward the Lumina Foundation's major objective as well as a review of the performance gap. This report addresses the elements driving the need to increase higher education completers, as well as some of the implications of the Lumina Foundation's goals for schools, higher education, and federal and state policy (Lumina Foundation for Education, 2010).

Enhancing college degree completion when funding is austere has resulted in a productivity agenda, nationwide, for higher education. Partly brought on by the Lumina Foundation's efforts, the agenda aims to acknowledge the importance of, measure and improve institutional effectiveness, share recommendations via pilot plans, and discover optional

educational delivery methods. These efforts are geared towards supplying high-quality college opportunities to more college students within existing economic constraints (Harnisch, 2011).

In spite of the present difficult worldwide economic situation, a number of states have implemented higher education student completion-focused policies, such as funding tied to performance plans - linking funding to completion rates. There is a growing realization that higher education needs to improve its ability to accommodate additional students, and that bettering the productivity of higher education is important to accomplishing this goal. Of long-term significance, there is also a focus to make sure these postsecondary degrees and credentials are high in quality (Harnisch, 2011).

The transition to an international economy has enhanced the importance of human capital for collective and individual economic stability. Realizing this, along with the importance of pursuing innovation, President Obama has established the aggressive nationwide objective of being the world leader in college graduates by 2020. His administration hopes to meet this goal through a focus on long-term problems related to higher education completion rates. This effort has helped bring on a national agenda focused on college completion, matched by related efforts from nationwide higher education associations, state governments, public policy organizations, and major charitable organizations (Harnisch, 2011).

Because of lowered state operating support, higher education is confronting historic budget cuts and leaving some to wonder whether these attainment goals can realistically be accomplished. State support plays a key role for public colleges and universities. This support has declined because of the financial downturn. Current state spending budget cuts have resulted in tuition increases and reduced monetary awards to students, and educational program closures. Enrollment caps have been implemented in a variety of institutions and states. These factors,

and many others, could negatively affect efforts to get students to complete their degrees (Harnisch, 2011).

Education has become an indispensable instrument to develop human assets. Greater training is becoming the “axial structure” in what has been called “the post-industrial society” by Daniel Bell; and universities have become the “axial organizations” in this society. As axial organizations, higher education institutions are critical for people and for the social prosperity of a region and our nation (Waters, 2001).

Two American economists, Theodore W. Schultz and Gary S. Becker, developed the concept of human capital in the 1960s (Schultz, 1961). They believed that the concept of human capital has two fundamental viewpoints: (1) Within the progress of financial development, the effect of human capital is larger than material resources; and (2) The primary part of human investment is investment in education (Economics Resource Center, 2003).

In reality, we have moved into an “age of knowledge” (Duderstadt, 2001, p. 6), in that the crucial resource essential for success is knowledge itself - educated individuals and the level of their understanding (Bloch, 1988). In contrast to natural resources, for example iron and oil, which have driven previous financial eras, knowledge is endless, unlimited. The more it is utilized, the more it multiplies and grows. We do not run out of it. However, it is not open to all; it can be absorbed and applied only by the educated mind. Consequently, as society gets to be more knowledge-intensive, it is social institutions such as colleges and universities that create comprehending entities, that educate individuals, and supply them with learning resources in their lives (Bok, 1990).

A highly educated labor force is essential in the present aggressively competitive economic climate. An informed labor force is a crucial element of social and monetary

“wellness,” especially in today’s information-based world. The globalization model indicates that institutions should include aspects of international designs in their operation because of the growing interdependence of the world’s cultural, economic, and political actions (Appadurai, 1990; Guillen, 2001). As an outcome, organizations should demonstrate characteristics of international and local identities. The globalization model indicates that the financial international marketplace is the principal catalyst for change (Slaughter & Leslie, 1997).

The changes that are occurring in community colleges are primarily a consequence of more people, less funds to construct new four-year colleges, as well as the soaring cost of tuition and the demands for a more highly educated workforce. Today’s employers are looking to get technically trained, highly educated employees. Community colleges are equipped to educate this workforce (Martindale, 2011). Community college officials say they are working to fill gaps in crucial skills, and supplying access to pupils searching for more applied learning, or for those who cannot manage to attend a standard four-year university, which is typically more costly (Martindale, 2011).

Historical Background of Higher Education

Clark Kerr, a former president of the University of California, conducted a worldwide survey of all organizations that existed before 1520 AD, which continued to do exactly the same thing in an identical way during the time period since. Based on his review he indicated, “About eighty-five institutions in the western world, established by 1520, still exist in recognizable forms, with similar functions and unbroken histories, including the Catholic Church, the parliaments of the Isle of Man, of Iceland and of Great Britain, several Swiss cantons, and seventy universities. Kings that rule, feudal lords with vassals, guilds with monopolies are gone. These seventy universities, however, are still in the same locations with some of the same buildings, with professors and students doing much the same things, and with governance carried

on in much the same ways” (Kerr, 1982, p. 152). Thus did Kerr demonstrate the importance and stability of colleges (Zhang & Hong-zht, 2010).

In 1862 and 1890, the U.S. Land-Grant Acts established the foundation for many of today’s universities. From 23 in 1800, the number of higher education institutions grew to 821 by 1897. These universities were, generally, secular establishments created on a clear mandate - to advance engineering, agriculture, and science. Their standard curriculum grew to include applied and social sciences, and professional training (Kaufman, 2012).

Higher education was greatly impacted by economic demands during the first half of the 20th century, with the emphasis shifted to fields related to industrial production. Chemistry departments grew in response to the need for educated experts and applied education. A well-rounded education grew to be progressively more essential for advancement within the corporate world, which relied on literate, experienced workers (Goldin & Katz, 1999).

The Serviceman’s Readjustment Act of 1944, the G. I. Bill of Rights, or the G. I. Bill modified the college student body by eliminating the principal hurdle to higher education: the price. Lower socioeconomic students were finally on campus. Consequently, the college student population grew substantially in the 1940s. In 1940 there were about 1.5 million college students, by 1950 there were about 2.7 million, with a large number of these being returning veterans. The G. I. Bill linked higher education to the American dream. A university diploma was seen as a pass to an enhanced existence (Kaufman, 2012).

By the later part of the twentieth century, college education grew more and more relevant to day-to-day life. The traditional liberal arts curriculum was modified, with science, vocational and applied education playing a greater role. In addition, higher education developed more

relationships with the corporate world, drawing funding from many parts of the private sector. (Kaufman, 2012).

Historical Development of Community Colleges

Community colleges emerged from divergent beginnings within the 19th and 20th centuries. The origin of community colleges can also be traced to the establishment of land-grant schools in 1862 by way of the Morrill Act. This is true because of this act's focus on agricultural and technical curricula and the extension of higher education to a broader group of individuals who previously had been excluded (Mellow, 2000).

Many of the original community colleges arose because of local initiatives. This often occurred with non-public sponsorship along with a diverse assortment of features and educational goals. A portion of these schools offered vocational and technical instruction in response to growing industrialization; others focused on business skills and the demand for corporate management. A number had religious roots, focused by the religious denominations that formed them. Others emphasized teacher education, meant to supply well-qualified elementary and secondary teachers (Mellow, 2000).

President of the University of Chicago, William Rainey Harper, sought and achieved the establishment of the first junior college, Joliet Junior College, in Illinois. Dr. Harper believed that schools like Joliet, founded in 1901, needed to focus on general education of students, while four-year schools needed to focus on the junior and senior levels of university instruction as well as upper degree and post-graduate review and research. He felt that four-year universities should concentrate on disciplinary specialization (Mellow, 2000). Early on, community colleges, like Joliet, were started as outgrowths of high schools. As such, they were under the control of local college boards (Mellow, 2000).

There were large numbers of pupils graduating from high school who required extra schooling. The demands of private enterprise and business had prompted the need for post-secondary education to grow significantly. Four-year universities had been under increasing strain to admit more students. Many of these students, although they had a real need for education past high school, were not in need of or, in some instances, qualified to pursue a bachelor's degree. Consequently, Harper and other people worked for the creation of junior colleges like Joliet (Ricketts, 2009). The view was that they would provide the general basic training requirements for students qualified to go on in higher education. This would enable these students to get their general education before going to a four-year university (Mellow, 2000).

The junior college idea took hold and there was significant growth within an assortment of junior colleges. Nearly all of these colleges were non-public schools. The American Association of Junior Colleges was formed in 1920. By 1930, junior colleges - irrespective of whether or not they were oriented toward liberal arts, preparatory or occupational training - would exist in all but five states (Ricketts, 2009).

With high unemployment during the Great Depression in the 1930s, a number of junior colleges shifted their programs of study to the education of semi-professionals, as two-year school graduates were then coming to be designated (Ricketts, 2009). Like community colleges of today, these schools provided educational access that was local and cost effective, serving those for whom a bachelor's degree was seemingly beyond reach.

Two events after World War II had great impact on two-year colleges. First, Congress enacted the Servicemen's Readjustment Act, the G. I. bill. This act provided financial help for demobilized service members looking to expand their job prospects by furthering their

education. This measure served to eliminate numerous longstanding economic and societal hurdles to higher education. Enrollment in universities in the United States increased dramatically as a huge influx of new and typically under-prepared pupils strained the resources of higher education (Ricketts, 2009).

Reacting to the massive influx of the pupil's right after the war, President Harry Truman formed a Commission on Higher Education in the summer of 1946. As a result, a group of educators and consultants was convened (Ricketts, 2009). This commission's report, presented in December 1947, contained numerous suggestions, with a specific emphasis on equality of instructional options for all college students, no matter their race or religious origin, or financial level.

The commission stressed that it was necessary to boost and extend educational opportunities that were being provided by two-year junior colleges (Ricketts, 2009). This report established that it was essential to enhance and expand the educational opportunities that were then being supplied in neighborhoods and towns by means of the two-year junior college, community institute, or institute of arts and science. The report also indicated that an overall descriptive name for these two-year schools was not important, but stated that "community college" appeared to clarify what these schools did best - with the essential factor being the services they provided, as well as the requirement for these services to be greatly broadened (Ricketts, 2009).

The expression "community college" came into widespread use in this way. Development and growth followed as a result of this report as local community colleges, till this time primarily private establishments, started out to be established broadly under public auspices with public funding, typically as a component of state systems. State University of New York

(SUNY) established its initial community college, in Jamestown, New York (Ricketts, 2009). In other areas, local community colleges were established that had dual state and county funding sources. Boards of governors of these community colleges are variously selected by nomination, election or a combination of each.

For a few decades in the twentieth century, community colleges actually provided a significant number of credentialed public school instructors. Hutcheson (2002) connects today's interest in community college alternative certification with earlier teacher shortages. Hutcheson and Pedersen (2001) have recorded that before 1940, non-public and public two-year schools were, excluding the northeast and California, a substantial source of licensed teachers. At the beginning of the twentieth century, they noted that in a number of states (e.g., Kansas, Oklahoma, Iowa, Missouri, and Nebraska) two-year colleges accounted for approximately sixty percent of K-8 teaching at a time when the baccalaureate degree was not a prerequisite for credentialing at this level (Manzo, 2003).

As time passed, numerous educators, particularly Leonard Koos, from the University of Chicago, joined with the United States Bureau of Education to strongly encourage states to transfer responsibility for teacher training to state normal schools and, at the same time, elevate these institutions to four-year university standing. By 1940, nearly all states had decided to train their future teachers in these schools. This effectively eliminated community colleges as a source for certified instructors.

As the baby boomers became old enough to attend college, encouraged by their parents who had taken advantage of the benefits of the G. I. bill, the largest groups of students in the history of higher education engulfed schools and universities (Ricketts, 2009). As a result,

community college construction and development increased dramatically, reaching its peak in the 1960s and 1970s (Ricketts, 2009).

As indicated, community colleges came out of the junior college movement during the early 1900s, emerged in the 1960s, and went forward as community-based centers with comprehensive curriculums and community responsiveness (American Association of Community Colleges [AACC], 2001; Cohen & Brawer, 2002; Hutcheson & Pedersen, 2001). Presently, public, private, and tribal community colleges are distributed in the United States in rural, urban, and suburban areas (AACC, 2002). Yearly, these schools enroll nearly half of all undergraduates and millions more in labor pool development and training activities (AACC, 2000, 2001).

Community colleges now reflect the role that William Rainey Harper saw for them at the beginning of the twentieth century. They provide general education for college students who then transfer to bachelor's degree granting institutions to complete their degrees. Community colleges have played an expanding and vital part in the instruction of our country's citizens, and have established beneficial relationships with the federal government, the corporate workplace, non-profit organizations, and K-12 education systems. They have tapped into the developing demand for highly educated specialists that do not match the traditional program demands found in our state and private universities (Boggs, 2010).

Community colleges vary in size and governance structures. Almost all public community colleges exist within individual districts, with an appointed or elected board responsible for policy formation. A number of states have coordinating boards while other states permit more community college autonomy. As an example, Michigan community colleges are governmental entities with designated powers under that state's constitution (Eddy et al., 2004).

The formal structure of community colleges comes from their structural roots in K-12 schools. Many of the initial community college leaders and faculty came from below the college level. Affected by business-based quality concepts, community colleges have generally moved from top-down management strategies to shared governance. Community college organizational structures, with the size of the community college dictating its business structure, are actually loosely blended systems, with their units often acting in unpredictable ways.

A community college business organization chart will typically display the head of the community college reporting to a board of trustees, with business matters, student services, instruction, and institutional advancement overseen by vice-presidents or deans. Focusing on why it exists, the creation of a results focused mission is a key step, creating a focus for institutional leadership and decision-making. The mission statement steers people within the community college toward results (Eddy et al., 2004).

Organizationally, community college faculty is one of the most unionized parts of higher education. Collective negotiation enhances the distinctions among faculty ranks and the administration, enabling for less autocratic management by leadership and for faculty with more of a voice in decision-making. Shared governance suggests shared decision making in many matters relevant to university operations. Nevertheless, shared governance participants have concerns regarding the usefulness of shared decision-making in relation to layoffs, disciplinary matters, and workload (Eddy et al., 2004).

Generally, White males lead higher education institutions, including community colleges. In 2001, 28% of community college presidents were female and 14% were African-American, but still community colleges have the highest number of women and African Americans in leadership positions (Eddy, et al., 2004).

Leadership in community colleges has moved ahead. The time from 1900 to the 1930s was the period in which the “great leader” concept predominated; next came the period when community college leaders sought to become more independent of secondary schools and form their own identity - from the 1940s to the 1950s. Then the period from 1960 until the 1970s had powerful, dominating leadership in which the current version of the community college was developed. The period from 1980 into the 2000s was when a concentration on resource issues was required, with business models used to emphasize strategic planning and efficiency (Eddy et al., 2004).

Importance of Associate Degrees

Community colleges have come to be the biggest sector of higher education in the United States, training 6.5 million college students yearly for credit (about 50 % of America’s undergraduates), with an estimated 5 million more in noncredit programs. Students range in age from young to very old, enrolling in courses in literature, biochemistry, and math, to languages, the humanities, local community advancement, emergency health-related methods, and motor repair (College Board, 2008).

Community colleges:

- Certify more than three quarters of emergency responders in the United States (criminal justice officers, firefighters, and health-related experts).
- Graduate more than half of the current nurses along with workers in other healthcare fields.
- Account for about 40% of foreign undergraduates.
- Enroll 46 percent of total undergraduates, African Americans being nearly half of these.

- Grant in excess of 800,000 diplomas yearly.
- Prepare substantial numbers of students who want to go on to four-year universities where they finish their bachelor's degrees (College Board, 2008).

Across the nation, one-half of baccalaureate degree recipients have attended community colleges prior to receiving their bachelor's degrees. Beyond these statistics, community colleges supply a start for individuals who become leaders working in industry, business, literature, the humanities, public services and government, wellness and the sciences (College Board, 2008).

Supplying a range of academic programs such as professional and technical training and, importantly, the first two years toward a baccalaureate diploma, community colleges are most often public, regional two-year colleges closely affiliated with the populations they serve. Community colleges typically either have a two-year program of study leading to an associate degree or serve students who transfer to a university before earning a degree. The transfer curriculum parallels the first two years of a four-year university. Community college degree plans also prepare students for direct entrance into a profession. Due to their community setting, and comparatively straightforward entrance requirements, since World War II community colleges have played a significant role in the expansion of instructional institutions within the United States.

At a community college, in two years, a person can train for the fastest developing employment opportunities in the economy, boost their earnings, and/or pave their way to additional education. When a person receives an associate degree, they open new doorways of opportunity in the workforce (Crosby, 2002-2003). For instance, if they would like to become a dental hygienist, they will need an associate degree, and to be a registered nurse calls for a minimum of an associate degree to begin this career. Studies indicate that workers with an

associate degree will be more competitive when applying for the following occupational areas (Crosby, 2002-2003):

- Computer support
- Construction and metal trades
- Education and child care
- Electronics
- Engineering technician
- Law enforcement and fire safety
- Paralegal
- Veterinary technicians

An associate degree is not necessary for employees in every job but several companies favor employing individuals who have one. Because the associate degree targets core academic programs businesses know candidates who have this kind of diploma have acquired instruction in basic language, math and computer skills - needed abilities for workplace professionals of many types – and that they have a work ethic necessary to obtain a degree (Crosby, 2002-2003). The Occupational Outlook Outline of the Bureau of Labor Statistics notes that community college graduates just beginning their career or occupation who make use of their diploma reap the most benefits from an associate degree (Bureau of Labor Statistics, 2010-2011).

In comparison to employees whose greatest level of educational attainment is a high school diploma, workers with an associate degree earn more. People with an associate degree will also be more likely to locate work. Unemployment rates are usually lower for people who have an associate degree versus those who have high school equivalency (Crosby, 2002-2003).

There is also the issue of expense to consider when weighing a degree. An associate degree often will take two years going full-time, versus a bachelor's degree, that takes four or five years to obtain for full-time students. By halving the time required to acquire a diploma, students save thousands of dollars and nevertheless receive valuable schooling that can get them a good job.

An associate degree is not just cheaper because it is of a shorter duration compared to a normal bachelor's degree; numerous community colleges charge much less for classes versus four-year institutions. In addition, a four-year degree means two more years of lost wages. Two-year schools benefit people who decide to work full time coming out of high school as many programs are provided at night and/or on Saturdays. Alternatively, if they have been in the labor force for a time and are curious about taking a few courses, two-year colleges are the right match because they allow a college student to check the college waters without giving them an excessive economic burden. Two-year colleges are also best for individuals who might not have had an absolute occupational aim when they graduated from high school, or people who are not in a position to satisfy traditional college entrance exams.

Community colleges have also typically been more pleasant and supportive places for minority students. That is especially important as states attempt to encourage more minorities to be teachers (Mills, 2003). Getting an associate degree also boosts confidence. Whenever a student sets an objective of getting an associate degree, and receives the degree, they get a sensation of gratification - especially if they have struggled with some classes but still achieve their goal. However, for many the greatest thing about getting an associate degree is the likelihood of getting a job.

Community colleges are also increasingly the option for good pupils who find it as an alternative to the steepening expenses at four-year universities. Community colleges supply low-cost summertime alternatives for students from four-year schools looking to fulfill liberal arts requirements at lower rates of tuition (Mellow, 2000).

President Obama has indicated that community colleges will form a cornerstone of his higher education policy. He feels that community colleges can play a major role in his administration's financial recovery plan. The president has indicated that four-year institutions have received an undue amount of attention, to the detriment of community colleges. Community colleges, President Obama has declared, should function as the point of access for higher education. The president is recommending a \$12 billion fund to assist community colleges in this regard (Ricketts, 2009).

The Initiation of Two-Year with Bachelor

The first two-year college to offer baccalaureate degrees was New York State's Fashion Institute of Technology in the 1970s. Since that time, many community colleges have started offering baccalaureates (Townsend, 2005). In 2000, the Carnegie Classification of [United States] Institutions of Higher Education (Carnegie Foundation, 2000) created a new category of institution called "baccalaureate/associate and certificates". Institutions with this designation give at least 10% of their degrees as bachelor's (Townsend, 2005).

Many individuals within the U.S. want to attend college, while there are others who have gone to college but have not yet earned a degree. These adults are out in the workforce but they are not capable of achieving a higher-paying profession, nor move up in their current work environment without higher education access. With the exodus of the baby boomers from the workforce, there will be a brain drain. There are insufficient numbers of adults with bachelor's

degrees to replace the departing group of workers (Harvard University Graduate School of Education, 2011).

Historically, community colleges have served individuals who are place bound or are seeking a less expensive educational option. Policies that are more inclusive and accessible, and course scheduling that is more convenient, fit the needs of students who work or have families (Martindale, 2011). As such, community colleges play a large role in teaching the local workforce. Serving people who are place bound, proponents of bachelor's degrees at community colleges argue that they are fulfilling a need for those who lack the funds and the ability to travel to achieve their educational goals (Perry, 2009).

The economic downturn has had a dramatic impact on community colleges. Transformed financial conditions are seen as spurring major community college enrollment growth nationwide. This enrollment growth has been mixed with widespread funding cutbacks. To increase understanding of how community colleges reacted to this economic storm the American Association of Community Colleges (AACC) conducted a survey of its member schools to look at adjustments to enrollment, regional factors influencing enrollment modifications, and the options for coping developed as a result of this situation. Two outcomes from this survey included the following (American Association of Community Colleges, 2009):

- In the United States, the number of individuals who signed up for credit-bearing classes at two-year schools, in the fall of 2009 went up by 11.4% from the fall of 2008, and was up 16.9% from the fall of 2007.
- Enrollment of full time students at United States community colleges went up 24.1% from fall 2007 to fall 2009 (American Association of Community Colleges, 2009).

In recent decades, community colleges have needed to accommodate growing numbers of college students. The construction of classrooms and campuses has not been able to accommodate the increasing numbers of pupils, and some students have been wait-listed for lack of room (Marcus, 2009).

The primary factors perceived to influence the elevated enrollments indicated by survey participants include the following:

- Students were interested in workforce training availability.
- Elevated unemployment for employees strengthened the realization that a college certificate or degree was important for obtaining employment.
- Retooling or enhancing existing expertise was crucial for job retention as well as preparing for occupational adjustments.
- The restricted fiscal assets of formerly fiscally safe households made community colleges an achievable choice because of their lower tuition and fees.
- Ties with companies, manufacturing, and high schools broadened program and programmatic prospects at community colleges.
- At some campuses, new construction permitted community colleges to offer new or additional courses.
- Some four-year schools had enrollment caps that resulted in more students attending community colleges (American Association of Community Colleges, 2009).

Enrollments have actually been increasing for a number of decades at two and four-year schools, nevertheless the latest annual spike has occurred totally at community colleges. In October 2007, some 3.1 million, or 10.9% of individuals aged 18 to 24, signed up for community

college. Twelve months later, that number had grown to 3.4 million, or 11.8% of 18- to 24-year olds. By comparison, enrollments at four-year colleges were fundamentally flat (Fry, 2009).

This new peak in students attending community colleges comes during a time of recession that has driven the nation's unemployment rate to its highest level in more than a quarter century, and it has particularly affected younger adults. The Bureau of Labor Statistics has determined that fewer 16- to 24-year-olds were working in September 2009, 46.1%, than at any time since 1948, when the federal government began collecting these data (Fry, 2009).

Historically, enrollments at community colleges tend to be higher as the economy worsens – countercyclical (Betts, 1995). One explanation for this is cost. Four-year institutions are more expensive than community colleges. Community colleges average \$6,750 per year (combined tuition, fees, and room and board) for full-time students, in comparison to \$9,800 for four-year public universities and \$21,240 for four-year private universities (College Board, 2009).

Regardless of the greater expense of four-year universities, their enrollments have not dropped throughout the economic downturn. They have held steady, and have been able to do so in spite of tuition hikes, averaging 4.9% annually over inflation from 1999 to 2010 (College Board, 2009).

Based on census figures, 84.9% of individuals 18 to 24 years old had finished high school by October 2008, up from 75.5% in 1967 and 83.9% in 2007. Correspondingly, there was a record low in dropouts from high school, 9.3% in 2008, a drop of more than half from 19.8% in 1967 (Fry, 2009).

Increases in population, lack of funding to build more four-year colleges and significant increases in tuition are drivers behind offering bachelor's degrees at community colleges. An

educated, technically well-informed workforce is what today's employers are looking for.

Community colleges indicate they have the capacity to educate this workforce (Martindale, 2011).

As indicated by IPEDS, 14 states have community colleges that award associate and bachelor's degrees – as indicated in Table 1 (Lewin, 2009). These 53 two-year with bachelor's schools will form the basis of this study (U.S. Department of Education, 2012). Other states are considering offering community college baccalaureates.

Table 1. Summary of Approved Community College Baccalaureate Programs by State

State	Year of First Approval	Number of Schools
Connecticut	2005	3
Florida	2001	17
Georgia	1997	5
Hawaii	2004	1
Indiana	2004	1
Minnesota	2003	1
Nevada	1998	2
North Dakota	2006	1
Ohio	2005	9
Oklahoma	2004	2
Texas	2003	3
Utah	1992	1
Washington	2005	6
West Virginia	1989	1
Total		53

Note. Source: IPEDS (U.S. Department of Education, 2012)

Applied Bachelor's Degrees

Backers of community colleges that offer bachelor's degrees indicate that the bachelor's degrees offered by these schools are typically "applied" bachelor's and are not the same as the bachelor's degree which is granted from four-year universities. Applied bachelor's are constrained to certain specialized fields focused on instructing students in competency-based abilities versus four-year universities that focus on students that have the ability to use what they

learn in numerous job situations (Martindale, 2011). As such, applied baccalaureate degrees offer a path for non-traditional college students to a bachelor's diploma and they assist state and local governments in dealing with shortages in the workforce.

Applied baccalaureate degrees at community colleges are for traditional students seeking an occupation and for older individuals who have acquired college credits previously and need to re-enter college, typically to be successful in their careers and progress into a supervisory stage. An applied baccalaureate diploma is usually a four-year bachelor's degree that is obtained at two-year institutions of higher education that include community or technical colleges. The degree usually targets applied academics, sciences, or technologies to make sure that graduates can meet forecasted labor force demands in locations where workers have been displaced by declining manufacturing jobs or by employment choices that have been eliminated for other causes (Martindale, 2011).

Starting in the 1970s, the number of applied baccalaureates increased in the 1990s and 2000s as a means to prepare individuals for employment in jobs that require college beyond a two-year degree. Analysis indicates that the applied baccalaureate degree is a developing phenomenon in the United States, especially within the last 10 years. This development is indicated by the quantity of related programs and areas of study offered, and by the number of states and schools that now award these degrees. Applied bachelor's degrees signify a convergence of trends and issues that are getting nationwide focus - the move to enhance the ease of transfer and generate more university degrees, the destabilized economy, and the necessity for the United States to remain educationally competitive on a worldwide scale (Bragg & Ruud, 2011).

Applied bachelor's degrees are a way for states and schools to provide access for students who heretofore held terminal two-year degrees. Applied bachelor's degree programs often gain by being partners with other postsecondary institutions and employers. Additionally they boost transfer options for individuals matriculating between conventional two-year and baccalaureate degree-granting institutions. As such, these degrees boost geographic ease of use by place-bound adult students in addition to other underserved populations (Bragg & Ruud, 2011).

As states try to find progressive methods to boost access to higher education, community college baccalaureate degrees are often turning out to be the choice for students, specifically for career-changing adult learners and first-generation learners. With 17 community colleges approved to provide bachelor's degrees, Florida leads the states in this regard. They presently provide bachelor's in "applied" fields as diverse as fire security management and veterinary medicine (Lewin, 2009). Florida community colleges have been granting bachelor's degrees since 2001, mostly for a particular occupational purpose - for example nursing and teaching ("applied" degrees) - and to serve regional areas not served by four-year institutions (Moltz, 2010).

Examples of the applied bachelor's degrees offered by Florida community colleges include (Bragg & Ruud, 2011):

- Middle Grades Mathematics Education
- Middle Grades Science Education
- Secondary Mathematics Education
- Nursing
- Early Childhood Education
- Secondary Biology Education

- Middle Grades Language Arts Education
- Cardiopulmonary Sciences
- Public Safety Management

In the State of Washington, the governor has stressed the need for his state to stay competitive within the global economy and the state's two-year colleges believe they can play a role in meeting the need for more college students to achieve bachelor's degrees (Rolph, 2008). With growing pressure to increase the number of bachelor's degrees, a number of local community and technical colleges have been allowed to add bachelor's degree programs - and they want to do a lot more of this within next 10 years. By 2018, the State of Washington's 34-campus community and technical college system desires to provide 1,900 applied bachelor's degrees each year (Rolph, 2008).

Economic and Political Forces Impacting Higher Education

For both two-year and four-year institutions, there are not adequate funds available at the state and federal level for greater expenditures on education. Accessibility to more education is essential not just in times of economic crisis but as the mass retirements of the baby boomer generation gets underway; to prepare a workforce that is lacking in adequate education (Zumeta & Fawcett-Long, 1996).

The current economic climate, combined with the desire for enhanced educational opportunities, makes it critical for higher education leaders to provide available dollars, and the best faculty and staff, in ways that can make the most difference to their institution's capability to achieve results. Financial limitations dictate that universities cannot continue all of their existing activities. However, each activity is not equally important when it comes to impact. Being successful during a poor economy means safeguarding and focusing on the school's basic

mission, the educational services that are most important to the people the school serves, and the institutional infrastructure necessary to do this (Berkshire Hathaway Company, 2009).

Colleges and universities will continue to manage under tough economic conditions for the future and many state budget forecasts predict a sluggish recovery and adjustment to restricted fiscal circumstances. Higher education is especially vulnerable to these economic downturns because their funding is regularly regarded as “discretionary” within state budgets. As a result, legislatures are asking higher education institutions to hold down expenses while relying much less on state appropriations, without having to raise tuition and fee expenditures for college students (Graham, 2004).

Even though some public colleges and universities do not have extensive strategic plans, they all have an underlying mission, which is to serve everyone within the sponsoring government unit (e.g., county, region, state). They do this by providing access to higher education, along with other training at acceptable costs to the citizens. Public universities and colleges, with more stakeholders than their non-public counterparts, react and have a different approach to dangers and difficulties than their counterparts. These stakeholders include faculty and staff, alumni, legislators, managing boards, program experts, grantors, university college students, and federal government professionals, amongst others. Controlling boards often are held accountable to the executive and legislative branches of government and they are quickly impacted by elections. Stakeholders have different ranges of influence and frequently have conflicting targets and desires, for instance (Duderstadt, 2001):

- Access versus top quality of students and nationwide ratings,
- Affordability versus appropriation concerns or cutbacks, and

- Efficiency versus local employment and financial development (Berkshire Hathaway Company, 2009).

A number of political figures have pushed for the community college bachelor's degree at the state level. As indicated, this has occurred in Florida and Washington, and other states. Simultaneously, there has been opposition from state authorities who see the traditional, historical role of community colleges as awarding sub-baccalaureate degrees, and do not want to allow community colleges to award bachelor's degrees. Illinois, Michigan, and Wisconsin, all Midwestern states, are states in which the controversy regarding the community college baccalaureate continues to be contentious. Additionally, numerous states within the New England area have made the decision not to approve community college bachelor's degrees, either because of an absence of perceived interest in these degrees or due to resistance to offering these degrees based on the traditional alternatives that, various individuals feel, currently offer enough routes to the baccalaureate (Bragg & Ruud, 2011).

In California, there are a growing number of challenges for university pupils to access the California State University and University of California systems (Lewin, 2009). With lots of people being turned away from colleges, California's legislature may allow its community colleges to provide a small number of bachelor's degrees. This would signify a substantial philosophical change in California where the three state higher education systems have highly defined roles. In California, this initiative is brought on by significant budget cuts to four-year state universities, which has compelled them to reject potential students (Klugerman, 2009). The move to offer bachelor's degrees at California community colleges commenced when pupils could not access four-year schools.

Community college bachelors, providing degrees in many workforce development areas, are also being considered in a number of additional states, but there is a great deal of debate, political maneuvering, and opposition about whether or not community colleges need to offer these four-year degrees. Bachelor's degrees in culinary arts, cement technology, and nursing are being sought by two-year schools in Michigan. However, these efforts are being opposed and legislation will be required to move forward. This legislation has been launched but that is as far as it has gotten. The bill to accomplish this change, which is anticipated to achieve a hearing, would allow community colleges to provide four-year degrees. To a large degree, opposition comes from Michigan's regular universities who see community colleges offering bachelor's degrees as an invasion of their turf. The state's 15 public universities indicate that doing this would allow community colleges to move outside of their historical mission, and that existing arrangements between community colleges and universities sufficiently address this perceived need (Snyder, 2011).

Certainly, at times, the effort to change a two-year school to baccalaureate standing can take on aspects of a political campaign. One two-year college, which eventually achieved the change to baccalaureate status, acknowledged the steps it took in its systematic "campaign" to realize its objective (Cavanaugh, 2001):

- Supply legislators, along with other decision makers, with information regarding the higher education situation in the portion of the state where the two-year college is situated, including its convenient location and its impact on location-bound students, especially the unprivileged and women.

- Seek powerful support from the two-year college's legislative delegation, Chambers of Commerce, mayors, along with elected officials, local media, and citizens of the region.
- Create a bumper sticker and lapel pin marketing campaign to advertise and advance understanding of the two-year college's efforts to become a baccalaureate institution.
- Gain support for the college to award bachelor's degrees from the governor along with other statewide administrators and office-holders.
- Create a "Friends" group to coordinate attempts to modify the two-year college's mission.
- Get funds to hire a consultant to help build the case for the change and employ a lobbyist to help deal with the political process, and conduct social functions for the legislature (Cavanaugh, 2001).

Changing Role of Community Colleges

From the period beginning in the 1840s until the 1950s there was an evolution where "normal schools" intended to educate teachers, became teacher colleges and then changed to become liberal arts colleges, and so kept evolving as they became universities, and finally research universities. In light of this, should we be concerned with this trend as community colleges seek to be four-year schools? Is this "mission creep" on another front? In attempting to evolve in an effort to meet the needs of all people, critics say that community colleges that offer bachelor's degrees could end up being mediocre in all they do (Lewin, 2009).

Community-college baccalaureates are challenging the line between the research mission of universities, the instructional mission of colleges, and the open admissions of community colleges. Many individuals in leadership roles feel that higher education now has the best

division of duties. The change to a community college bachelor's degree is not viewed comfortably (Lewin, 2009). In whatever way the positives and negatives work out for the community college bachelor's degree, several higher education officials say that community colleges should be wary of expanding too rapidly into four-year degrees lest they shed their core mission (Lane, 2003). Critics of creating bachelor degree programs at two-year colleges cite a fuzzy line and duplicated efforts, and what may be perceived as an inferior baccalaureate diploma. Their concern is that the community college role could be lost (Martindale, 2011).

For example, Utah Valley Community College began offering baccalaureate degrees in 1992. The school already offered several associate degrees but Utah County, Utah had no public four-year universities to which the community colleges students could transfer. What is now called Utah Valley College has grown by 15,000 students and offers 34 bachelor's degree programs. Most striking: Utah Valley is no longer a community college (Fliegler, 2006).

Questions have been raised regarding whether or not baccalaureate programs at community colleges are costly (Eaton, 2006), whether or not they limit use of other educational solutions (Levin, 2004), whether or not local community colleges can handle supplying high quality upper-division courses (Wattenbarger, 2000), or whether four-year programs signal a change of institutional identity (Townsend, 2005). Additionally, within the past few decades, a few scholars have brought up larger questions regarding the role of community colleges in society (Brint & Karabel, 1989, Pincus, 1980, Rhoads & Valdez, 1996, Zwerling, 1976).

Skeptics argue that local community colleges do not possess the financial wherewithal to operate baccalaureate programs because of the needed enlargement of the library holdings, labs, and faculty. There is also the additional concern that the community college bachelors will be a reduced quality degree in comparison with those from a university (Burrows B., 2002). Burrows

points out that many people including James Wattenbarger, a long-time supporter of community colleges, feel that the baccalaureate diploma from a community college might be seen as being a second-rate degree (Bemmel, Floyd, & Bryan, 2009).

Four of the policy issues that must be addressed regarding the community college baccalaureate include the institutional mission, college student and community requirements, the cost, and the framework (Cook, 2000). Cook believes that a modified mission could generate an emphasis shift from community college focused to baccalaureate education, potentially leading to internal conflicts such as a cultural alterations or friction between upper and lower division faculty (Cook, 2000).

Regarding the expense question, it has been pointed out that even if local community colleges could supply the university baccalaureate in a more effective and efficient way, an institution cannot offer baccalaureate degrees without accepting significantly transformed cost factors. These include faculty, labs, and libraries that will mean more cost because of enhanced accreditation requirements and modifications in workload (Cook, 2000). A survey of administrative managers at 10 community colleges offering baccalaureate degrees emphasized the significance of an appropriate amount of available monetary assets as being needed to assure the success of a community college baccalaureate program (Bemmel, Floyd, & Bryan, 2009).

Floyd and Arnaud indicate that the exact expense of running a baccalaureate program is usually not known because expenditures are sometimes combined along with other curricular areas (Floyd & Arnaud, 2008). Cook also advised that other cost policy issues should be addressed. For example, are local community colleges able to create a cost model for offering baccalaureate degrees that is substantially different from the cost model presently employed by

four-year universities (Cook, 2000)? In addition, how the college baccalaureate will contend for fixed assets and enrollment needs to be addressed (Floyd & Arnaud, 2008).

The idea of community colleges conferring baccalaureate degrees has generated debate and passionate arguments on both sides (Eaton 2006, Mills, 2003, Townsend, 2005 and Walker, 2005). Many professionals worry that community colleges will adjust their focus from their core local community mission and curricular choices - developmental, transfer, community, and technical education - toward what may be deemed inappropriate focal points, for example upper-division baccalaureate courses leading to four-year degrees (Floyd, 2006).

Opponents of the community college baccalaureate believe that four-year universities ought to confer all baccalaureate degrees. However, the view of a number of individuals is that as universities raise undergraduate admissions standards and place more focus on research, they deemphasize programs such as those offered for place-bound students and individuals in disciplines such as teacher education, technology, middle management administration, and allied health. As such, supporters of the community college baccalaureate feel justified in looking for authority to offer these degrees. To do this an advocate for the community college baccalaureate, the Community College Baccalaureate Association (CCBA), was formed in 1999 (Walker K. , 2005).

Opponents contend that community colleges are and will be offering traditional liberal arts degrees that are more properly supplied by universities. Supporters say that the reality is that community college bachelor's degrees are mainly applied workforce degrees in such areas as technology, management, business, nursing, law enforcement, agriculture, engineering, and teacher education.

Supporters of the community college baccalaureate say that it is a myth that community colleges have never offered post-associate degree programs since they have done this for years through their continuing education programs (Floyd, 2006). Opponents (Eaton, 2005; Wattenbarger, 2000) hold steadfast to their contention that four-year universities ought to be the doorkeepers of baccalaureate degrees.

Opponents say that community colleges need to strengthen their partnerships with four-year universities to cope with local demands for baccalaureate degrees. These individuals encourage community colleges, as an alternative to offering bachelor's degrees, to collaborate with four-year universities to produce university centers and higher articulation (Eaton, 2006; Wattenbarger, 2000). Supporters say that most community colleges with baccalaureate degree approval already have strong ties with four-year colleges and universities. They say that community colleges have programmatically been addressing problems of access to the baccalaureate for a long time, through concurrent use plans (Windham, Perkins, & Rogers, 2001), and that community college presidents prefer partnership models with universities when practical (Floyd, 2006).

Many universities feel that community colleges are involved in "mission creep" that could distract them from their standard function and result in watered-down bachelor's degrees (Wakefield, 2007). Critics are concerned that four-year degrees will result in community colleges abandoning their traditional mission of "open entry," serving as the higher-education starting point for students searching for post-high-school degrees (U.S. Department of Labor, 2007).

In California, that state's proposal to allow community colleges to offer bachelor's degrees will face many obstructions, including pricing. The California community college

system, with 110 schools and nearly three million college students enrolled yearly, is overflowing and its \$36-per-semester hour charge would not be adequate to pay for sophisticated four-year degrees. A typical course is comprised of three or four semester hours, for a cost of \$108 to \$144. At 12 hours an individual is considered a full time student – and would pay \$36 x 12 units = \$432 per semester (California Community Colleges, 2011).

Experts say that California should exhaust other alternatives prior to expanding the mission of their community colleges, which could include opening more university branch campuses. A number of people believe that lawmakers should heed studies that have demonstrated that as few as one in four college students who intend to transfer from community colleges to universities do this inside of six years. Their view is that legislators should think very carefully about the ramifications, suggesting that it would be better for community colleges to be focused more on success rates (Krupnick, 2009).

Some would say a community college identity crisis is occurring. In Florida, about 50% of that state's two-year universities have altered their names (Klugerman, 2009). Central Florida Community College, as an example, would like to call itself the College of Central Florida. Seminole Community College transformed its title to Seminole State College of Florida. The purpose, indicate community college administrators, is fundamentally because of perception: obtaining a bachelor's degree from a community college is recognized as less distinctive than from a state university (Klugerman, 2009).

In the community college bachelor's people wish to obtain access to baccalaureate degrees at a cost they are capable of paying for. It also avoids problems associated with transfer and, proponents say it does not injure the four-year universities because they have far more applicants than they can take anyway.

Alternatively, higher education analysts say that baccalaureate programs could function in little doses. For example, the nursing profession especially can use more educated employees, emphasizing an answer for getting people skilled and back into the workforce (Krupnick, 2009).

Florida with just over a quarter of its residents holding a bachelor's degree or higher, is ranked 30th in the country in terms of college attainment. Extra bachelor's-degree holders will most likely be needed as Florida transitions to a more knowledge-based economy (Gonzalez, 2011b).

Virtually all Florida two-year colleges accept earlier college credits, so for individuals who need some classes, took time off and then decided to go to college again, the prior credits still apply. If a community college student decides to transfer to a four-year college, the prior credits are eligible.

At the beginning of 2000, Florida's work force was not keeping pace with demand. The state then decided to go with a then-novel option, a bachelor's diploma from its community colleges, as a solution (Gonzalez, 2011b). When they were initiated, Florida community college bachelor's degrees centered on education, health care, and technologies. Even though the job market has been reduced since that time, there is still a need for nurses and teachers in certain fields, such as math, science, and special education. To keep pace, the degrees available now also include public safety and biomedical sciences, to meet changing work-force requirements in Florida (Gonzalez, 2011b).

A number of the individuals who obtain bachelor's degrees from community colleges in Florida make better salaries than those who graduate from the state's four-year universities. This occurs since the community colleges' curricula are customized to well-paying jobs that will be available to them upon graduation.

Enrollment growth has continued. Thirteen-thousand students, in a recent year, the vast majority who already had acquired associate degrees, decided to seek baccalaureate degrees in the state's community colleges, in comparison with 2005, when there were 2,400. Florida has the most community colleges, with 17 schools approved to award bachelor's degree. St. Petersburg University, the first community college in Florida to award bachelor's degrees, in 2001, provides 24 programs, the most (Gonzalez, 2011b).

In Florida, the geographic issue of distance between four-year schools and the closest community college came into play; in addition, inadequate online selections for many programs at the four-year institutions made it difficult for transfer students to earn bachelor degrees. It was difficult for these students to balance work and loved ones while needing to drive a few hours to head to classes in a university. Now that Florida's community colleges can award bachelor's degrees this situation has been improved (Gonzalez, 2011b).

A Florida community college must meet certain stipulations to acquire approval to offer bachelor's programs. It must not terminate associate degree programs, specifically those students that want to transfer to four-year schools. Moreover, local community colleges cannot provide bachelor's programs that are already offered by the nearest four-year university.

Not all states are seeking to emulate Florida's strategy. In Arizona, an effort to generate more bachelor's degrees in areas like nursing and law enforcement, at community colleges, was unsuccessful as leaders of the state's four-year universities opposed the move. The opponents were anxious about this move causing enrollment to drop since enrollment and funding are linked in Arizona (Gonzalez, 2011b). This same response also occurred in Michigan.

Supporters of continuing to provide bachelor's degrees via four-year schools oppose the community college bachelor's based on funding, stating that the modification raises demands on

state funding when funding for higher education has previously been insufficient. With government funding low, state universities oppose the shift, stating that authorities do not have the funding for such new plans (Strauss, 2009). Opponents to the two-year bachelors say that local community colleges should continue doing the key work they are performing well, supplying two-year degrees, and preparing college students for transfer to four-year schools. Opponents say that greater cost, significantly less resources for needy pupils, and minimized and lower quality degrees will be the results of providing bachelor's degrees at community colleges (Lewin, 2009).

The Cost of Attending College

The price for college students in bachelor's degree programs at community colleges is 56.1% of regular university programs (Wu, 2009). A student who gets an associate degree as part of a bachelor's degree curriculum at a community college gets an associate degree, even when he fails to complete the bachelor's degree. Acquiring an associate diploma is often better than obtaining no degree at all (Johnson, 2009).

Monetary obstacles are stopping senior high school graduates from attending college and are damaging the country's economic position. The Advisory Committee on Student Financial Assistance warns that if the United States is going to continue to be competitive within a progressively competitive international and technological economic system, it must dramatically improve its investment in higher education. To deal with emerging economic powerhouses, like India and China, the United States will have to get many more people through college. Since many college-ready youth do not attend simply because they cannot afford it, the committee concluded the nation would have to significantly increase its financial aid to college students (Pekow, 2006).

Is a \$10,000 bachelor's degree achievable? Texas governor Ron Perry is asking that state's colleges to make a \$10,000 bachelor's degree possible, with books included. Education leaders say it may be possible by using the state's community colleges. Typical tuition and expenses within a public university in Texas this past year was \$6,483 with a four-year total of \$25,932 as determined by the coordinating board. That does not take into consideration yearly tuition and payment increases. With books, the total would be over \$30,000. However, college students who spend their initial two years in a community college prior to shifting to a university could, in a few instances, complete a four-year degree for under \$10,000, according to the board (Mangan, 2011).

While community colleges could be part of the solution, universities also need to find ways to hold down fees. Costs are kept low at community colleges since faculty and staff salaries are significantly less, and they employ adjuncts who are more affordable than tenured faculty. Research is not the focus of two-year schools, they do not field high-level collegiate sports teams, and they often do not develop student housing and fitness centers. These activities are what form the "college experience." Presumably, there will always be individuals who want this and are willing to pay for it. However, there is evidence that there is a growing need from college students who have families, are older, employed and who want a diploma as rapidly and cheaply as they possibly can. No person is proposing the community college bachelor's degree to everyone. What is being discussed, in relation to the community college baccalaureate, is offering students another option - and reinventing higher education in the process (Ludwig, 2011).

The Southern Association of Colleges and Schools (SACS) requires community college baccalaureate institutions to meet four-year college standards, necessitating greater investment in

library resources and student services. The National Council for Accreditation of Teacher Education (NCATE) insists on a low student-teacher ratio. There is a fear that money needed for these accreditation requirements may come from raising tuition and fees for associate and certificate programs. Community colleges hold down fees by assigning faculty larger course loads than at four-year universities (College Board, 2009). In addition, they utilize larger numbers of lower-compensated part-time faculty along with more instructors without doctorate degrees.

Completion and Graduation Rates

The United States used to be the best in college completion. Now, according to the latest study from the College Board, the U.S. has fallen to 17th spot amongst 36 developed nations for 25 to 34-year-olds that have college degrees (Sengupta, 2008)

Given that President Obama has made completion of college a focal point of his agenda for higher education, there have been many efforts by foundations, university leaders, organizations that are nonprofit, as well as the legislatures of states, intended to increase the number of college graduates. Across the nation, in community colleges, 22% of full-time, first-time students get a degree within three years. That figure will need to be adjusted significantly in order to fulfill the Obama administration's aim that the United States possesses the highest number of college graduates, worldwide, by 2020. To attain that mark, the U.S. Education Department indicates that the number of college graduates will have to increase by 50% countrywide within the decade (Gonzalez, 2011a).

The report, “A Stronger Nation through Education,” is really a nationwide call to action to improve college graduation rates within the United States. It says that the U.S. is in danger of an unprecedented shortage of college-educated workers. It suggests that communities strive to get sixty percent of their residents a college degree by 2025 (Sengupta, 2008). Increasing students’

access to school is critical since the numbers of students who graduate with a diploma or credential are vital for American society and its economy.

Whatever one's view on bachelor's degrees at community colleges it is clear that the higher education marketplace is responding to the needs of our country and economy by pushing this trend forward. The need is there and this reality is now being addressed by many community colleges stepping forward to meet this need. (Sengupta, 2008).

Community College Identity Crisis

As they move to a two-year with bachelor's status, community colleges can experience a split mission personality, attempting to keep the best in their community college heritage and striving to honor their new role as a bachelor's level institution. These schools need to bring policy, culture, and governance in full support of their new status and mission. Importantly, offering the baccalaureate will change the two-year college in terms of organization development (Lewin, 2009).

New faculty coming into the college community with implementation of bachelor's programs bring a wider diversity in values and expectations, and the leadership challenge related to the orchestration of diversity and community will be significant. The college has to make decisions about other important policy matters such as institutional association membership (state, regional, and national), intercollegiate athletics competition, financials, risk management, partnerships, and student tuition (McKinney & Morris, 2010).

Large-scale enterprise change typically triggers emotional reactions -- denial, negativity, tentative acceptance, and commitment. To prepare faculty and staff for success they should be offered pertinent particulars about demographic, worldwide, economic, technological, competitive, and higher education developments. Individuals need to comprehend the vision,

objectives, and strategy of the institution. They have to start to see the reality of the institution as well as how their action affects that reality (Gorman, 2000).

Alternatives to the Community College Baccalaureate

Two-year schools in many cases are readily available to individuals within communities and therefore are easily accessible to operate with a focus on academic partnerships. As they have moved from junior colleges to comprehensive institutions, contemporary community colleges have demonstrated their commitment to these partnerships in numerous ways. Incorporated in these partnerships, among others, are articulation models, whereby pupils are guaranteed that their credits will transfer to a four-year institution, university extension models, by which universities provide extension programs resulting in the baccalaureate degree, and university center models, which consist of numerous on-site partnerships created to assist students earn a baccalaureate (conferred by universities). Many community college presidents show a choice for partnership models, rather than delivering and conferring baccalaureates individually from their institution (Floyd, 2005).

Articulation Model

A number of community colleges have contracts with universities to guarantee that students who take their freshmen and sophomore years at their school will be able to transfer their credits to the university with which they have the articulation agreement. States with such agreements have larger numbers of transfer students than the national average as they collaborate to make certain that their students' credits transfer. This design not just guarantees admission to two-year school graduates but supplies them with preferential status for admission to selective programs (Wellman, 2002).

University Center and Concurrent-use Campus Models

University centers and concurrent-use agreements have become progressively more important strategies for supplying access to the baccalaureate because they enable community colleges to collaborate with senior colleges and universities to provide baccalaureate programs in the community colleges region. Lorenzo (2005) lists six types of university center and concurrent-use agreements:

- The co-location model, in which institutions share the same space;
- the enterprise model, where institutions form a consortium to operate a higher education center;
- the integrated model, in which a higher education center is integrated on a community college campus;
- the virtual model, which is similar to campus-based university centers, but in which upper-level course work is offered online;
- the sponsorship model, where the community college is in charge of operating the center and determining course offerings; and
- the hybrid model in which bachelor's degrees are offered by community colleges but with collaboration occurring with universities for other degrees.

Except for the hybrid model, many of these ideas designate the senior college or university to confer their degree, not the community college. Under the university center model, university services are put on community college campuses to supply baccalaureate degrees. The university center is usually staffed by college faculty and governed by the university. The university awards the bachelor's degrees. In other cases, a group of universities offers programs at a university center (Floyd, 2006).

University Extension Model

There are community colleges that are associated with universities with which they have merged their governance. In other states, for instance Louisiana and Oklahoma, land grant universities have been granted authorization to operate associate degree branches that are not community colleges, but function comparable to them in serving local needs (Lorenzo, 2005).

Embedded Baccalaureate Model

An alternative option is the embedded baccalaureate model (Cotto, Teahen, & Thomas, 2006). This model stresses learning outcomes, alignment of curriculum, and transparency for community college students, shared responsibilities for student programs and counseling, and transitions between terms and courses. Pupils using this model graduate with both associate and bachelor's degrees (Cotto, Teahen, & Thomas, 2006).

Partnerships

Four-year baccalaureate degrees are available at community colleges by means of partnerships with universities whereby a community college collaborates with a university which provides the second two years of the student's education. This option is broadly employed across the nation to address local demand for baccalaureate schooling. The university, awarding a regular bachelor's degree from the accredited institution, awards the degree through this partnership. This "2+2 model" generates a seamless transition in the student's initial two years of education at a community college, to a university program (Latiner & Valeau, 2010).

Multi-Institutional Consortia Model

Under this model, community colleges and universities are co-located together on the same campus. However, each has its own curriculum, faculty, and administration. The goal is to work together, serve students, and share facilities efficiently (Office of Program Policy Analysis & Government Accountability, 2006).

Distance Education

Online programs use technological resources such as the internet, video, and academic television to provide upper division courses on community college campuses. Often, the programs are flexible, permitting students to take courses at the times they desire. Articulation entails formal articulation contracts between the community college and four-year institution to facilitate a seamless transfer of their pupils without any loss of credit (Martorana, 1993)

Summary of Arguments in Favor of the Community College Baccalaureate

Ability to Meet Local Workforce Demands

A number of individuals feel that the community college baccalaureate is an excellent method of addressing unmet labor market demands (Walker & Floyd, 2005). For instance, in Florida there will be over 200,000 additional college credit students signed up for the state's universities and colleges when compared with 1999 (Walker K. , 1999). An overall 20,000 new teachers are going to be essential for Florida every year between 2005 and 2020. However, this need is being outflanked by demand as Florida public and private universities graduate about 6,000 new teachers annually. Previously, only 50-60% of the new teaching graduates became classroom instructors, leaving the state in need of gifted people to train its youth (Bemmel, 2009).

Expertise in Applied and Technical Degrees

Applied baccalaureate degrees supply a path for non-traditional college students to a bachelor's diploma and they help state and local governments in addressing shortages within the labor force. Typically, applied degrees supplied by community colleges, as an example, the Associate of Applied Science Degree, have become the standard within certain technical fields. Nonetheless, some high-skill occupations require a baccalaureate for entry or promotion. Supporters propose that it makes more sense to build up these degree programs where they

already exist, at community colleges, since many four-year schools have no history or expertise in these areas (Russell, 2010).

Improved Access to the Baccalaureate

The rationale for the community college baccalaureate, put simply, is “access”- physical, programmatic, and financial. America’s community colleges enroll almost 50 percent of the undergraduates in higher education. Place bound students are restricted by inadequate geographic access to universities and by household and family obligations that do not allow them to complete classes on the traditional campus. Community colleges are accessible geographically, supply open admissions, and are inexpensive. As demands for baccalaureate degrees increase, the majority of the nation’s population is within driving distance from a community college and, as an outcome, these “people’s colleges” are valued for their availability to individuals who are place bound (Floyd & Walker, 2009).

Overcrowding at Four-Year Colleges

Permitting community colleges to award bachelor’s degrees is demographically reasonable. In some states, demand exceeds capacity at four-year schools. Offering selected bachelor’s degrees at community colleges may help reduce overcrowding and address workforce needs (Lewin, 2009).

Reduced Completion Rates for Online Students

Students enrolled primarily in courses online fall short and give up their educational careers more frequently than people whose training is class-based, based on a study conducted by the Community College Research Center. This analysis, which traced 51,000 State of Washington community college students between 2004 and 2009, found a dichotomy in completion rates for those who took online versus classroom courses. This study found a gap of eight percentage-points, with traditional students more likely to continue their education – versus

those who took online classes. Although those who enrolled in internet based classes had better academic backgrounds and came from higher earnings bracket families compared to the community college population overall, the study found that those students who, at the beginning of their educational career, took online courses, were more likely to give up than individuals who had taken only face-to-face classes. Among pupils who took any programs online, the ones with the most online courses were less likely to complete community college or go on to a four-year university (Brown, 2011).

Minority Student Support

Ethnic groups are more likely to reenroll at a community college versus a four-year public university. Thus, it seems reasonable, that these students would be receptive to these institutions extending their curriculum to include bachelor degree offerings. Community colleges have typically been more pleasant and supportive places for minority students. That is especially important as states attempt to encourage more minorities to be teachers (Mills, 2003).

Reduced Taxpayer Costs

Community colleges make good sense for citizens; based on their per-student tax, funding is lower. The funding differs by state, but a recently documented figure for per capita cost at public community colleges is \$9,183 per college student. When compared to \$27,973 for each four-year university student, the very low cost supports the idea that community colleges make sense from the taxpayer's perspective (Mellow, 2008). In specific states, as an example Florida, community college junior and senior level baccalaureate programs are funded at a reduced per student price than equivalent university baccalaureate programs (Floyd & Walker, 2009).

Competition with For-Profit and Private Institutions

Supporters of the community college baccalaureate believe that it is a reaction to the unmet need for bachelor's degrees, which they also see in the trend of corporate colleges or like service designs (Walker, 2000). Walker (2000) indicates that between 1988 and 2000, the number of corporate colleges increased from four hundred to more than 1,000. Walker also points out that more corporations are creating their own schools or are requesting for-profit universities to educate their personnel mainly because traditional universities are thought too slow to respond to corporate needs (Walker, 2000).

Summary of Arguments Opposing the Community College Baccalaureate

Accreditation Obstacles

The community college baccalaureate faces accreditation requirements that necessitate the need for an increase in library holdings, expansion of laboratories, and an increase in faculty with doctoral degrees. Hence, this accreditation challenge often leads to high start-up costs, while typically the initial enrollment will be low. This high start-up cost combined with low enrollment results in a higher per credit hour cost for the community colleges, as compared with public universities (Bemmel, 2009).

Availability of Online Education

Given typical use of online internet degree programs, students are no longer restricted by their residential location. As such, incorporating community college baccalaureate programs may be unwarranted, specifically for curriculums that can be delivered on-line (Russell, 2010).

Concerns about Quality

There is a fear that community college baccalaureate degrees will be at a substandard level when compared with a university. A number of people, including James Wattenbarger, a long-term supporter of the community college system, believe that a baccalaureate degree from a

community college may be viewed as second-rate (Wattenbarger, 2000). It is contended that the standard of education provided at a community college will not be comparable to that of a university education because community colleges are not likely to provide higher-level classes that are as thorough as university curricula. Consequently, graduates of community colleges may not possess the critical thinking skills expected of those with a baccalaureate diploma. Since perceptions are critical, it may be hard to convince organizations that the bachelor's degree from a community college is as good as a bachelor's degree from a university. Because of this, over time, the overall prestige and real worth of the baccalaureate diploma may be decreased, harming all bachelor's degree holders, not only individuals who received bachelor's degrees from community colleges (Wattenbarger, 2000).

Faculty Issues

Faculty who are employed to teach upper-division programs might have values that are not the same as existing community college faculty. As an example, the requirement for faculty research may conflict with the community colleges emphasis on teaching. Problems related to faculty may occur because of unequal pay and instruction load between higher and lower division faculty. Disputes regarding the mission of the institution can also develop (Townsend, 2005).

High Cost/Need for State Dollars

Community colleges supplying baccalaureate degrees may need to divert resources from their historic pursuits to satisfy four-year standards. Experts indicate that community colleges do not have the economic resources to operate the baccalaureate courses, mainly because this necessitates enhanced development of the library holdings, labs, and faculty (Townsend, 2005).

Minority Student Support

People who stand in opposition to the community college baccalaureate are concerned that if baccalaureate programs increase the community college might not serve pupils from lower earnings backgrounds (Hanson, 2009).

Mission Creep

Amongst the most strenuous objections to four-year degrees is “mission creep”. A cadre of authors is concerned that community colleges may possibly transfer their interest and assets to bachelor’s degrees. Along the way, they indicate universities might neglect or short-change students who do not desire or are deemed unfit for a baccalaureate degree. A frequently discussed issue is that the philosophy and goals of community colleges will be altered considerably as they move away from their conventional function of supplying technical and vocational training, labor force improvement, continuing education, and remedial schooling (Mills, 2003) .

Program Duplication

Four-year institutions are currently supplying the baccalaureate programs that community colleges are seeking to offer. Online classes, alongside other curriculum delivery alternatives provide verified and price-effective ways of supplying baccalaureate programs within the United States. Community colleges also often already offer bachelors programs in partnership with universities. Confronted with scarce assets, avoiding duplication must be a principal objective. Permitting community colleges to award baccalaureate degrees without careful assessment of need can cause unnecessary and expensive duplication. Because of this, most states that permit community colleges to award baccalaureate degrees have confronted this issue with caution (Lewin, 2009).

Remedial Skills

Remedial skills are needed within the workforce. A current survey indicates that 36% of job candidates lack math along with other skills required for the career they were applying for. Performance has shown that these are capabilities that can be better taught inside a community college rather than a four-year university (The Conference Board, 2006).

Overtaxed Community Colleges

Many community colleges around the nation are being requested to do a lot more with less. A number of community colleges are already overburdened and do not have the ability to deal with a lot more responsibilities. Presidents at some community colleges have expressed these worries and, as a result, are not searching for expansion of their mission (Russell, 2010).

Partnership Options

Specialists reason that since there are a multitude of partnership models between community colleges and universities, for example concurrent use programs, there is little need for community colleges to provide their own bachelor's degrees. Community colleges, by means of close ties with universities, along with other cooperative designs, through which a community college reaches an agreement to provide the junior and senior years of the student's education, give widespread and geographically accessible access to bachelor's degrees. These options are broadly utilized nationally to deal with community college interest in baccalaureate education (Florida Board of Education, 2002).

Additional Questions Related to the Community College Baccalaureate

There are many additional questions related to the community college baccalaureate. These questions relate to finance, cost, mission, students, faculty, and staff.

Cost and Finance Issues

- What will be the short-term expenses connected with developing new community college baccalaureate degree programs?
- What would be the longer-term expenses?
- How will costs per degree compare to four-year universities?
- How will the flow of state funding be impacted?
- If they exist, how would state funding formulas be transformed?
- What will the effect be on community college budgets, and the way adequate assets are to be found?
- How will use of federal funds be affected?
- How will tuition prices be affected?
- Who will bear the increased fees of greater-cost programs?
- Have additional library expansion and operational funds been included in the community college baccalaureate plans?
- If state assistance is needed, should community college baccalaureate pricing and four-year university pricing be equal to eliminate competition?
- Are facilities adequate to have a baccalaureate program without affecting the community colleges prime mission? (Russell, 2010, p. 8)

Mission Issues

- Where is the proof that community colleges offering baccalaureates will not lose their founding commitment to open access and programs of less than four years?

- Where is there proof that two-year colleges will not disappear or at least lose stature because some of them do not want to, or are, by law, not allowed to offer the baccalaureates?
- Will the focus, in terms of baccalaureate degrees, be targeted to full-time college students, part-time college students or both?
- Will the community college be expected to maintain its traditional open access mission?
- How will the needs of associate-degree students and others currently being served continue to be met?
- Will developmental education be protected?
- If higher education funding is limited, would it be a better idea to provide an associate degree to as many as feasible or offer affordable baccalaureate degrees to a few?
- Will community colleges be allowed to provide identical baccalaureate majors that state schools provide (Russell, 2010, p. 8)?

Student Issues

- How will chances for baccalaureate completion be impacted?
- What will be the impact on costs for students?
- Will typically low tuition rates be preserved for lower-division college students?
- Will businesses acknowledge community college baccalaureates as comparable to degrees from four-year universities?
- Will community college prime mission students have legal guarantees that they will continue to have open, cost-effective access to top quality education?

- Will there be a limitation on how many bachelor's degree majors a community college can offer? (Russell, 2010, p. 8)

Faculty/staff Issues

- How will the new faculty be assimilated into the culture within the university?
- Will new faculty have to be employed? If yes, what qualifications are going to be looked for? How can competent faculty be attracted and preserved?
- How will the payroll structure be influenced?
- Will a two-tier faculty result and what will this mean for the institution?
- How can faculty and program quality be addressed?
- Will more administrative workers be needed to handle the new programs? (Russell, 2010, p. 8)

Research Addressing Dependent Variable and Research Addressing Potential Explanatory or Independent Variables

The primary variable of interest in this study is the number of associate degrees being granted by community colleges that have been authorized to offer bachelor's degree. The primary focus of the existing literature is not on the numbers of associate degrees that these schools continue to offer in their traditional role as community colleges, and not on a multi-state basis. The assertion that offering bachelor's degrees will have an impact on the organization and organizational development within these schools has been focused on – but the focus has been more on a qualitative or methods basis within a limited number of institutions. There is no research looking at the impact of awarding of bachelor's degrees by community colleges on the number of associate degrees that they award. The following identifies what the related qualitative studies have indicated regarding the community college baccalaureate.

Research Focusing on the Community College Baccalaureate

Policy Examinations

In his research, Manias sought to determine if three Florida community colleges that evolved into baccalaureate-degree conferring institutions accomplished the original goals as detailed in the legislation that transformed them into baccalaureate-granting institutions (Manias, 2007). The outcome of this research suggests that community college based baccalaureate teacher education degree programs in Florida are providing more access, supporting the position that the community college bachelors offers greater access to individuals who are seeking a bachelor's degree.

In his policy study, Pershin analyzes the policies and legislation in the state of Florida. He argued that Florida has reorganized the mission, goals, and operational patterns of its community colleges. Pershin sought to understand the different contexts that permitted this legislation to come about and take hold in Florida (Pershin, 2006). This research recognized the framework built by the individuals who created the policies that allow community college to grant bachelor's degrees in Florida. This relates to the political aspects of the community college bachelors.

Finance and Politics

In the Bemmell study, the researcher explored the cost-effectiveness of offering a baccalaureate degree at two Florida community colleges. He then extended this model to examine the costs associated with offering a similar degree at universities in the State University System of Florida (Bemmell, 2009). This research indicated that university based bachelors and community college with bachelor's programs were equal in terms of test scores and graduation rates. However, in terms of cost, the community college bachelors cost less, focusing on the access issue of the community college baccalaureate.

Burrows explored the new extension of the community college mission—the community college baccalaureate. Burrows recognized the cost effectiveness factors related to granting community colleges the ability to confer baccalaureate degrees and focused attention on the extant legislation and policies in the state of Florida (Burrows, 2002).

Mission and Governance

Gonzales focused on examining state governance boards. Gonzales examined both sides of the spectrum regarding the baccalaureate model. Gonzales relied on a multistate analysis to examine the factors driving this movement. He looked at the individual legislative bills and regulations related to the community college bachelor's movement (Gonzales, 2005).

The McKee case study discusses the evolution and history of community colleges from their inception. The reader learns about the differences in scope, mission, and purpose, which exposes the multifaceted aims of community colleges over the years. After this review, McKee explored the community college mission vis-à-vis the community college baccalaureate. McKee examined Westark College in Arkansas (McKee, 2008).

In her research study, Petry sought to discover the key defining moments in the eyes of five key leaders of community colleges in Florida in their ideological shift from strictly two-year colleges to baccalaureate-degree-granting institutions. Besides identifying the defining moment, the researcher sought to uncover the factors influencing the desire to introduce these programs at their respective institutions. According to Petry, “Results showed a high degree of support for the implementation of the baccalaureate degree in community colleges. Two primary reasons for the creation of these transformational programs were (a) student access to the baccalaureate degree and (b) meeting workforce needs.” (Petry, 2006, p. x).

Plecha examined whether three previous community colleges, Utah State College, Dalton State College (Georgia), and St. Petersburg College (Florida), could maintain their traditional

curriculum focus. Alternatively, his study asked, through their offering of baccalaureate degrees, did they relinquish their first and most important mission for a newer and more glamorous secondary one? Through intensive site visits and interviews, Plecha studied information obtained from administrators, faculty, and staff. Plecha articulated that the traditional goals of community colleges should focus on remaining an open-access option for students seeking vocational, transfer, community, and remedial education courses. Plecha argued that community colleges tend to relinquish their traditional mission as they prepare to embrace the mission associated with the offering and conferring of baccalaureate degrees. Plecha indicated that this shift in ideology often occurs due to political and economic forces. In addition, Plecha developed an instrument to assess the necessity of community colleges adding the baccalaureate to their traditional course offerings (Plecha, 2008).

Ross focused on faculty development and needs that might change with the shift to upper-division coursework. Ross utilized a methods approach (Ross, 2008). Faculty development is the focus of the Ross study, relating to the changes entailed in the shift to upper-division coursework.

The related issues of access (Manias & Petry), legislative and political framework (Pershin & Gonzales), cost (Bemmel) and community college structure (McKee, Plecha & Ross) have been part of the research focusing on the community college baccalaureate.

Summary of Research in Literature

As shown in the literature review, researchers and authors have addressed a wide range of topics related to the community college baccalaureate over the past decade. The most common theme was issues surrounding the mission of community colleges. A number of the researchers fear that the original mission will fade as community colleges add to the focus of their already overstretched curricular objectives. This echoes the concerns of many scholars (Dougherty,

2001; Eaton, 2005; Townsend, 2005; Wattenbarger, 2000). In addition to this common theme, most of the researchers looked at either particular colleges or policies in the State of Florida. Since 2001, Florida has become the most significant place for the community college baccalaureate, and the literature affirms this by the various studies focusing on either the policies or schools in the State of Florida.

The literature review covered the current community college baccalaureate research work nationwide. Yet, the topics covered still leave many areas that need to be addressed. Although the literature examined the issues effectively, these studies bring to light other questions regarding the implications of community colleges awarding bachelor's degrees. None of this research has focused specifically on the impact of awarding baccalaureate degrees on the traditional associate degree-granting role of community colleges, the focus of this study.

Theoretical/Conceptual Framework for the Study

More than 10 years have elapsed since community colleges began offering the baccalaureate. However, there has been little written related to a theoretical framework to understand this change. John Levin has mentioned that theoretically based explanations in the conduct of community colleges ‘‘are the exception as opposed to the rule’’ (Floyd, 2006, p. 2). Although supplying baccalaureate degrees is a comparatively new function for community colleges, it represents a substantial change in direction for these institutions. That may be why this continues to be questioned. Several specialists are very disconcerted with the notion that two-year institutions would offer four-year degrees (Skolnik, 2009).

Historical Perspective – Vocational Training

It is important to think historically about some alternative community college theoretical frameworks. Of interest is the movement to vocational training within community colleges. This transpired throughout the third quarter of the twentieth century. As this change was

purported to have significant implications to the role of the community college in fostering social equality, it continues to be the subject of discussion and debate (Brint & Karabel 1989; Karabel, 1972; Pincus, 1980; Zwerling, 1976).

There are three reasons why it is fruitful to look, as historical alternatives, at the theoretical frameworks used by Brint and Karabel to explain the change toward vocational education, as corollary to the movement of community college toward providing baccalaureate degrees.

- First, many individual specialists consider offering baccalaureates as a substantial departure from what community colleges have done within the last several decades, and it also signifies a significant new emphasis. Thus, it is natural to look for ideas that have been used to clarify significant new directions in community colleges. However, there are not many such major community college changes from which to select alternative relevant theories.
- Second, the supplying of baccalaureate degrees by community colleges appears, usually, to represent an intensification of their vocational or career education functions and focus.
- Third, the role of community colleges in fostering social equity continues to be debated. Referring to this development, advocates of the community college baccalaureate propose that it heightens the upward mobility prospects of community college students, while opponents believe that the standard clientele of community colleges may be neglected as more focus and funding goes into providing baccalaureate degrees (Skolnik, 2009).

Brint and Karabel provide three optional theoretical explanations related to the community college vocational education movement: A consumer-choice model, a business-domination model,

and an institutional model. Child (1972) draws on organizational role theory to explain institutional change, and Powel and DiMaggioa (1991) reference neo-institutional and globalization theories, specifically the concept of institutional isomorphism. Table 2 and Figure 1 summarize these theoretical perspectives.

Table 2. Theories Used as Components of the Theoretical Framework for the Study

Institutional Change Theories	Authors
Customer Choice Model Business Domination Model Institutional Model	Brint & Karabel (1989)
Organizational Role Theory	Child (1972)
Institutional Isomorphism	Powel & DiMaggioa (1991)

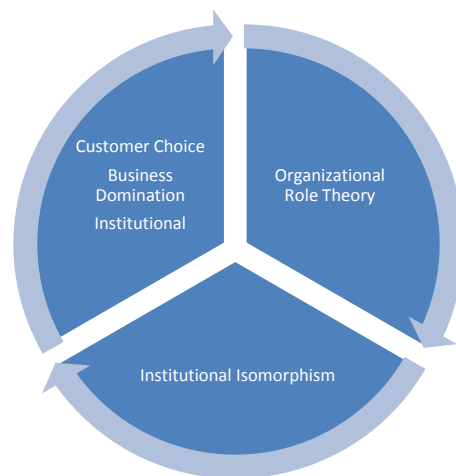


Figure 1 Theoretical Conceptual Framework Summary

The Customer-Choice Model

The consumer-choice model is derived from human capital theory. This theoretical model assumes that college students choose which sort of postsecondary education to go after based on their anticipated financial returns. It also assumes that instructional institutions adjust their selections in reaction to changes in student demand. Brint and Karabel suggest that in light

of the widely publicized decline during the early 1970s in the economic return of a university degree, many prospective individuals may well have decided that they would get a greater return from completing a vocational program (Skolnik, 2009; Figure 1).

The Business-Domination Model

Brint and Karabel's second theoretical model, the business-domination model, was "an application to education of a broader Marxist 'instrumentalist' theory of the role of the state in advanced capitalist societies" (Brint & Karabel, 1989, p. 14). Within this view, the upswing of vocational education in community colleges arrived mainly through the active intervention of business, by such means as serving on regulating boards, specific private donations, political lobbying, and the effort to influence by business-centered foundations.

The goal of such intervention would be to have employees educated at public expense with all the specific technical abilities necessary for business. Besides supplying the mandatory technical abilities, supporters of this view believe that the vocational education atmosphere in the schools is favorable to creating a docile labor pool that readily accepts the hierarchical structure in the typical workplace (Skolnik, 2009).

The Institutional Model

Basic to the institutional model is the idea that institutions possess a "logic of their own and pursue their own distinctive interests" (Brint & Karabel, 1989, p. 214). Within this view, the behavior of an institution cannot be recognized solely with regard to its reactions to its constituent groups - in this case, pupils and employers. Instead, it is important to look to the interests, values, and attitudes of the managers and professionals who have the power to define the interests of the institution and create its goals and policies (Brint & Karabel, 1989; Figure 1).

The community college baccalaureate movement has elements of all of the above. That enhancements to the fortunes of community colleges and their leaders occurred as vocational

education proceeded is indisputable. Additionally, while developing expected outcomes is unquestionably difficult, it appears likely that vocational education did lead to enhancing the stature, support, and security of the community college (Skolnik, 2009).

Self-Interest

Key to this current study and a key point of the Brint and Karabel theories is community college institutional self-interest, and the career interests of the leaders of these schools. Brint and Karabel (1989) arrived at the conclusion that this was the dominant force within the vocational education movement in community colleges. Bringing the role of institutional interest into their theories regarding the vocational education movement in community colleges may be the primary reason why their work had been unpopular amid community college leaders. This issue is pertinent within this study of the emergence of the community college baccalaureate because critics of this development charge that community college leaders who advocate for the baccalaureate do this simply to increase their and their institution's standing (Skolnik, 2009)

A difficulty with the theoretical explanations of Brint and Karabel might be the pivotal function they assign to the self-interest of institutional and governmental leaders. This may be why higher education professionals generally have not acknowledged these theories. Self-interest could be considered a significant variable within the actions of people in leadership positions, and it may be within the conduct of individuals in subordinate positions. While inclusive of the above, the motivation of the educators and administrators who presided over the re-shaping of the community college was, most likely, more complex than these theories assume (Skolnik, 2009).

Organizational Role Theory

The theoretical framework for this study, in part, will also follow organizational role theory, specifically the dominant coalition concept of organizational role theory as described by

John Child (1972). Systematic comparative analysis of the connection between the structure of organizations and environmental variables is an important guide for research in the United States, as espoused by Aiken, Blau and Hage, Hall, Lawrence and Lorsch (Child, 1972); and in England as presented by Pugh and Woodward (Child, 1972). Within their work, these experts have attempted to locate the degrees of empirical variation in institutional structures and to establish the circumstances of these variations. Their findings provide the substance from which structural determination models have been formulated.

The dominant coalition concept provides a look at institutional structures in relation to power distribution and decision-making. If there is some independence of maneuver about contextual components, need for efficiency and structural design, then some other options are implied concerning how institutions will be run. The dominant coalition idea concentrates on who is making the choices. It supplements our understanding of useful institutional conduct with a different interpretation, one that is political, and does not regard such constraints as plainly acute or immutable, and which highlights the role of preference (Child, 1972).

In his historic review of American industrial enterprise, Chandler developed the idea of strategy in relation to the exercise of choice by a dominant coalition as a key source of organizational variation. "Strategy" can be explained as the determination of the long-term objectives and goals within the enterprise, and the adoption of courses of action and the allocation of resources needed to carry out these targets (Chandler, 1962).

According to Chandler, the changing of organizational goals is typically related to alterations in organizational dimensions, technology, or location. Concerning organizational structure, his basic thesis is that a new strategy requires a refashioned framework if the enlarged enterprise is to be operated successfully. The method of strategy formulation in this way

represents an interface between what Burns (1966) has called the “working organization” and the “political system” within organizations (Burns, 1966).

Chandler’s and Child’s evaluation, leads to the determination that strategic choice is the crucial variable inside the theory of organizations. Other variables which have frequently been thought to be independent determinates of organizational structure are, in this viewpoint, noted as connected collectively as several factors of reference for the process of strategic decision making.

The dominant coalition concept looks at institutional structures and organizational systems in relation to power distribution and decision-making. In relation to the operation of community colleges, this theory says that there is some independence of maneuver about contextual components, need for efficiency and structural design, and some other options are implied regarding how these institutions are run. The dominant coalition theory concentrates on who is making the choices. Based on this theory, offering the baccalaureate will change the two-year college in terms of its organization, which leads to the question, how is this change affecting organizational systems at community colleges that offer bachelor’s degrees - in terms of the number of associate degrees produced?

As indicated by Blau, “Only systematic comparisons of many organizations can establish relationships between characteristics of organizations and stipulate the conditions under which these relationships hold, thereby providing the material that needs to be explained by theoretical principles and important guides for deriving these principles” (Blau, 1965, p. 338).

This theory also supplements our understanding of useful, efficient, innovative organizational conduct with a different interpretation, one that is political, and does not regard

the constraints on community colleges as plainly acute or immutable, and which highlights the role of preference versus practicality (Child, 1972).

These theories supplement the focus on the organization and our understanding of optimal institutional conduct, offering associate degrees, with a supplemental interpretation, one that looks at the political aspects and self-interest, in relation to the desire to offer bachelor's degrees. Certainly, there is a highly political aspect surrounding the community college with bachelor's phenomena.

In the literature review for this study, the organizational self-interest and political aspects of the community college baccalaureate often seem to predominate. The organizational pros-and-cons of the two-year with bachelor's are plentiful, varied and valid, but repeatedly the actual related decisions seem to be made, largely, in the political sphere. The two-year with bachelors was blocked, politically, by four-year schools in Michigan - ostensibly, because they felt it would be duplicative, but their fear of competition played a role in their opposition (Schultz, 2009).

Within this context, this quantitative study will bring clarity by looking at the impact of the community college baccalaureate within the community college organization, and how the adoption of courses of action and the allocation of resources needed to carry out the community college bachelor's degree granting objective have specifically impacted the community colleges primary associate degree-granting role.

Organizational role theory by itself does not offer a complete explanation of the community college bachelor's phenomenon. Importantly, this study will also look to neo-institutional theory (Powell & DiMaggio, 1991). Neo-institutional theory stresses the influence, from the institutional setting, on organizational behavior and change. As opposed to explaining

institutional actions because of competition or the economic marketplace, neo-institutionalism stresses the role of local factors. Neo-institutional advocates report that institutional motives and behavior are primary causes for institutional change (Brint & Karabel, 1989). In the neo-institutional perspective, community colleges are motivated to create baccalaureate degree programs to improve their status and increase prestige.

Neo-institutional Theory and Globalization Theory

Organizational change can be understood as a change in organizational factors and methods (Levy & Merry, 1986). The creation of baccalaureate degree programs signifies an important alteration for two-year institutions. John Levin, who has written extensively on community colleges, has noted that change is a common characteristic of two-year schools. A community college's success is founded on its ability and readiness to endure significant enterprise alterations, because its mission should be to provide comprehensive programs and services that match the different and altering needs of the area it serves (Van Wagoner, 2004).

Theories of enterprise change and behavior can be used to better understand why more community colleges are starting four-year degree programs. Two theories, drawn in conjunction, present an explanatory framework for the emergence of the community college baccalaureate: neo-institutional theory and globalization theory (McKinney & Morris, 2010).

Neo-institutional theory (Powell & DiMaggio, 1991) stresses the influence from the institutional setting on organizational behavior and change. As opposed to explaining institutional actions because of competition or the economic marketplace, neo-institutionalism stresses the role of local factors. Neo-institutional advocates report that institutional motives and behavior are primary causes for institutional change (Brint & Karabel, 1989). Simply because they frequently share similar motives and goals, organizations within the same area learn to mimic and model each other (Hall, 2002). This phenomenon is called "institutional

isomorphism” (Powell & DiMaggio, 1991) and describes the creation of bachelor's degree programs as behavior by community schools that seeks to model those things completed by four-year schools and colleges (Levin, 2004).

The neo-institutionalization principle by itself, nevertheless, does not offer a complete explanation of the community college bachelor's phenomenon. This enterprise transformation continues to be stimulated not just by institutional and community forces but additionally by worldwide forces and external demands on these institutions (Levin, 2004). Globalization theory indicates that organizations will include aspects of international designs in their behavior because of the growing interdependence of the world's cultural, economic, and political actions (Appadurai, 1990; Guillen, 2001).

As an outcome, organizations will demonstrate characteristics of the two - international and local identities. As opposed to neo-institutionalism, globalization theory indicates that the financial international marketplace is the principal catalyst for business change (Slaughter & Leslie, 1997).

Institutional Isomorphism

Isomorphism is a mathematical term and indicates what could be happening with regard to community colleges who seek to offer bachelor's degrees. Isomorphism is a result in mathematical game theory: you can theoretically optimize a (mathematical) game simply by imitating your opponent's previous move, assuming he is trying to win. As community colleges are competitive, other colleges that are also attempting to 'win', or at least survive simply must adopt the winning strategy. It should also be noted that various regulating and accrediting agencies have extensive requirements...it simply makes sense from an administrative point of view, to copy a protocol or system that is known to satisfy those requirements (Moscato, 2012).

Simply because they frequently share similar motives and goals, organizations within the same area learn to mimic and model each other (Hall, 2002). This phenomenon, as indicated, is called "institutional isomorphism" (Powell & DiMaggio, 1991), and describes the creation of bachelor's degree programs as behavior by community schools that seeks to model those things that are being done by four-year schools and colleges, and some other community colleges (Levin, 2004).

In *Higher Education: Handbook of Theory and Research, Vol. XXII* (2007), O'Meara, in her chapter titled "Striving for What? Exploring the Pursuit of Prestige" goes into this phenomenon. She describes "academic striving" as prestige pursuit within higher education. The concept of striving builds on the concepts of "extension vertically" (Schultz & Stickler, 1965), "drifting academically" (Berdahl, 1985) and "drifting upward" (Aldersley, 1995), "ratcheting upward" (Massy & Zemsky, 1994), and institutional isomorphism (DiMaggio & Powell, 1983; Milem, Berger, & Dey, 2000; Morpew, 2003; Riesman, 1956). Additionally, this concept has been called, "institutional homogenization," or "institutional imitation" (DiMaggio & Powell, 1983).

David Riesman (1956) originally introduced the idea of institutional isomorphism. He observed, "there is no doubt that colleges and universities in this country model themselves upon each other...All one has to do is read catalogs to realize the extent of this isomorphism" (Riesman, 1956, p. 25). Isomorphism describes a movement from institutional diversity toward institutional homogeneity. Riesman indicates that diversity within a system, like higher education, is essential for its survival, while homogenization will compromise the system (Riesman, 1956). One particular kind of higher education institution cannot meet the requirements of all pupils. If all institutions within a system are the same, there is no

competition, and competition results in excellence. Variations in institutions facilitate selection and lead to opportunities, whereas sameness removes selection and results in stagnation. If community colleges develop hybrid institutions by supplying a number of occupationally prepared bachelor's degrees while retaining community college ideals, then more diversity within the system would be the outcome. However, if community colleges offer bachelor's degrees and neglect to retain their core remedial, vocational, transfer, community education focus, then isomorphism will be the consequence (Plecha, 2008).

A decline in the awarding of associate degrees, by community colleges who offer bachelor's degrees, when compared to community colleges that do not offer bachelor's degrees, would be an indicator of isomorphism and homogeneity. This study determines if this is occurring.

When Riesman (1956) brought forward the concept of isomorphism in this regard, he suggested that a hierarchy existed within higher education institutions in which a few exclusive schools reside at the top, some in the center, and the largest number in the bottom. Riesman (1956) describes a "snake like procession" where schools at the tail seek to model themselves on the institutions in the center, and in addition, the schools in the center seek to emulate those schools at the head. Riesman makes use of the snake-like representation as an illustration of how, as one particular institution progresses, those in front of it will probably be moving on a different course further forward. The term isomorphism (same form) indicates that many institutions make an effort to imitate those in front of them, and if this process continues for sufficient time, few distinctions will remain amongst the institutions.

Accreditation also induces isomorphism; certainly, the non-accredited schools (the ones at the very end of the tail) will increase prestige by being accredited, and that process really does

impose a level of similarity as the schools satisfy the accreditation requirements (Moscatello, 2012).

Importantly, this homogenization of higher education institutions could compromise the viability of the educational process since, based on Riesman (1956) and other people, diversity within a system is important for its survival (Deephouse, 1996; Zucker, 1987).

Berdhal (1985) continued this work, describing academic drift as the “Tendency of institutions, absent any restraint, to copy the role and mission of the prestige institutions” (p. 303). Massy and Zemsky (1994) furthered the focus on striving by describing how educational ratcheting takes place inside of departments. These authors examined how administrative costs elevated as educators lessened educating and institutional ties and elevated departmental and disciplinary ties and pursuits.

The forces that promote isomorphism are internal and external to the institution (DiMaggio & Powell, 1983; Zucker, 1987). Both of these forces frequently exhibit co-variable associations to one another in that the institutional leaders affect the legislative leaders and the other way around. Furthermore, each of these not only influences the other, but also concurrently influences the goals of the organization. For example, the school leader who is striving to achieve power, prestige, and authenticity interacts with external legislative forces, with this dynamic driving institutional change leading to isomorphism in the system.

According to Riesman (1956), aggressive forces underlie the movement toward homogenization in higher education. He suggests that postsecondary institutions will always be competing for restricted assets, and schools with the least assets (community colleges) will imitate schools with elevated assets (four-year universities) for obtaining a larger portion of the educational market.

Marketplace pressure for better educational access comes whenever there is a shortage of college graduates, which is particularly the case when the shortage is in high-demand work fields. As an example, the current lack of capacity to graduate teachers and nurses to meet the requirements of society has created segments of the educational market where community colleges can thrive. Furthermore, as more community colleges commence offering bachelor's degrees in nursing and teaching, more pressure is going to be positioned upon non-community college bachelor's institutions to supply these degrees. As such, as community colleges start to offer bachelor degrees, they will more closely resemble four-year institutions, and community colleges that do not offer bachelor's degrees will feel compelled to seek to do so, demonstrating homogeneity. (Plecha, 2008)

Both exterior market and internal institutional forces drive isomorphism. Freeman and Hannan (1975) completed a study analyzing the driving forces of institutional similarity and determined that individuals within an institution who compete for assets, political power, and authenticity drive institutional isomorphism. In higher education, it is not surprising that to attain authenticity the enterprise leaders inside the schools at the tail end of Riesman's snake, (the community colleges) make an effort to model themselves after the more distinctive institutions that are in front of them (four-year schools). Therefore, both educational market and institutional forces have an impact on institutional goals pertinent to competition for assets and enhancement of prestige (Freeman & Hannan, 1975).

DiMaggio and Powell (1983) offer three ways in which institutional isomorphic change takes place: "1. Coercive isomorphism that stems from political legitimacy, 2. Mimetic isomorphism resulting from standard responses to uncertainty, 3. Normative isomorphism associated with professionalization" (p. 150). Though these sorts of isomorphic forces are not

always mutually distinctive, they generally stem from distinct circumstances and can lead to different outcomes.

Coercive isomorphism is brought on by institutional requirements that are mandated or forced. DiMaggio and Powell (1983) state, “Coercive isomorphism results from formal and informal pressures exerted on organizations by other organizations upon which they are dependent, and by cultural expectations in society within which organizations function” (p. 150). Regional accrediting organizations are good examples of coercive isomorphism affecting the community college.

Mimetic isomorphism may be the inclination for institutions to mimic or attempt to mold themselves after institutions that are more prominent. Emulating the reactions of a higher ranked, successful institution can provide a straightforward approach for institutional survival. This process has been called academic drift, institutional drift, and mission creep. It has significant repercussions for higher education (Burrows, 2002; Lachs, 1965; Mills, 2003; Queval, 1990).

Normative isomorphism in local community colleges is partially brought on by elevated professionalization inside of the fields such as nursing, teaching, and computer technology. As work that required no degree or possibly a two-year degree now has elevated educational requirements for employment, community colleges were required to enhance their educational course choices to fulfill society’s labor force demands. Related to this is the profession-driven move from two to four-year degrees for nurses.

According to the concept of isomorphism, organizations inside a system will wind up like one another as time passes. Drawing from Riesman’s point of view, this research will seek to uncover whether or not the community college baccalaureate is an example of isomorphism -

with community colleges becoming more like four-year institutions. In this regard, a pertinent question asks if community colleges can supply bachelor's degrees while continuing their historical mission or will we begin to see the disappearance of community colleges, as they become more like four-year universities (Plecha, 2008).

Limited comprehensive quantitative studies have been done that examine the way in which the offering of bachelor's degrees, by community colleges, influences the regular associate degree-granting function of these institutions. This study evaluates the influence that providing bachelor's degrees by community colleges has on the number of associate degrees granted by each of the IPEDS two-year with bachelor's schools.

The related studies that have already been carried out are mostly institutional specific, qualitatively focusing on one or perhaps two or three community colleges that offer bachelor's degrees. A void exists in the research with little quantitative study done to examine the impact that providing bachelor's degrees has had on the conventional associate degree-granting role of community colleges that do so (DiMaggio & Powell, 1983).

CHAPTER 3: METHODOLOGY

Population

The population for this study is all public community colleges in the United States that offer associate degrees, including those awarding bachelor's degrees ($N = 1054$). These include associate degree public institutions under the following IPEDS classifications:

- Rural-serving Small
- Rural-serving Medium
- Rural-serving Large
- Suburban-serving Single Campus
- Suburban-serving Multi-campus
- Urban-serving Single Campus
- Urban-serving Multi-campus
- Public Special Use
- Public 2-year colleges under 4-year universities
- Public 4-year Primarily Associate's

The data for the colleges used for this study is maintained in the Integrated Postsecondary Education Data System (IPEDS) (U.S. Department of Education , 2012). Since this is a census study, no sampling was conducted.

Instrumentation and Data Collection

IPEDS is a compilation of national higher education data prepared annually through the U.S. Department of Education's National Center for Education Statistics. IPEDS gathers information from all higher education institutions that participate in federal financial aid programs. Schools that take part in federal student assistance, per the Higher Education Act of

1965, must report comprehensive data on their institutions. They report data on students enrolled, student program completions, graduation, finances, faculty and staff, institutional tuition rates, and university student economic aid (U.S. Department of Education, 2012).

The dependent variable is the number of associate degrees awarded. This is defined as the number of associate degrees awarded as a percentage of full-time equivalent students, based on 15 semester hours.

A data query was used to collect the data for this study from the IPEDS database, fall 2009-2010. The data query specifications for the descriptive variables and the dependent variable for public community colleges in the United States are shown in Table 3 and Appendix B.

Table 3. Description of Variables Used in the Study

Variable	Downloaded from IPEDS or Calculated	Description
Full-time fall enrollment	Downloaded	Total men and women enrolled for credit full time in the fall of the academic year.
Part-time enrollment	Downloaded	Total men and women enrolled for credit part time in the fall of the academic year.
Full-time equivalent enrollment – FTE	Downloaded	This variable is derived from the enrollment by race/ethnicity section of the fall enrollment IPEDS survey. The full-time equivalent of the institution's part-time enrollment is estimated and then added to the full-time enrollment of the institution. This formula is used to produce the full-time equivalent enrollment that is published annually in the IPEDS Digest of Education Statistics.
FTE enrollment was used as an intermediate variable in order to calculate associate degrees and bachelor's degrees awarded per FTE. It was not used as a direct predictor in this study		

Table 3 (continued)

Variable	Downloaded from IPEDS or Calculated	Description
Total core expenses per FTE enrollment	Calculated	This was calculated as the sum of instruction expenses, research expenses, public service expenses, academic support expenses, student service expenses, institutional support expenses, and all other core expenses, each per FTE enrollment, and for public institutions using Governmental Accounting Standards Board (GASB) 34/35 standards.
Instructional expenses (% total core expenses)	Downloaded	Instruction expenses as a percent of total core expenses for public institutions using GASB 34/35 standards.
Average salaries per FTE staff	Downloaded	Average salary equated to 9-month contracts of full-time instructional faculty - all ranks were derived by summing the equated 9-month outlays for each rank and dividing by the total faculty on both 9/10 month and 11/12 month contracts.
Cost of attendance (in-state students, off-site)	Downloaded	Cost of attendance for full-time, first-time degree/certificate seeking in-state undergraduate students living off campus (not with family). It includes in-state tuition and fees, books and supplies, off campus (not with family) room and board, and other off campus (not with family) expenses.
Percent receiving federal, state, or institutional grant aid (Enroll. %)	Downloaded	Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid (grants/educational assistance funds). Any grant aid includes Federal, State and local government grants and institutional grants.
Receiving Pell grants (Enroll. %)	Downloaded	Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received Pell grants. Pell Grant program (Higher Education Act of 1965, Title IV, Part A, Subpart I, as amended.) provides grant assistance to eligible undergraduate postsecondary students with demonstrated financial need to help meet education expenses.
Receiving federal loan aid (Enroll. %)	Downloaded	Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received Federal loans. Loans to students - Any monies that must be repaid to the lending institution for which the student is the designated borrower. Includes all Title IV subsidized and unsubsidized loans and all institutionally- and privately-sponsored loans. Does not include unsubsidized and other loans made directly to parents.

Table 3 (continued)

Variable	Downloaded from IPEDS or Calculated	Description
White, non-Hispanic (Enroll. %)	Downloaded	Percent of student body that is White non-Hispanic in the fall of the academic year. This variable is derived from the enrollment component that is collected in the winter and spring IPEDS surveys. White, non-Hispanic - A person having origins in any of the original peoples of Europe, North Africa, or the Middle East (except those of Hispanic origin).
African American, non-Hispanic (Enroll. %)	Downloaded	Percent of student body that is African American non-Hispanic in the fall of the academic year. This variable is derived from the enrollment component that is collected in the winter and spring IPEDS surveys. African American non-Hispanic - A person having origins in any of the African American racial groups of Africa (except those of Hispanic origin).
Hispanic/Latino (Enroll. %)	Downloaded	Percent of student body that is Hispanic in the fall of the academic year. This variable is derived from enrollment component that is collected in the winter and spring IPEDS surveys. Hispanic - A person of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin, regardless of race.
Associate degrees offered (yes/no)	Downloaded	Associate degree - An award that normally requires at least 2 but less than 4 years of full-time equivalent college work.
Associate degrees (number awarded)	Downloaded	This variable is derived directly from the IPEDS completions survey grand total for first majors and Associate degree and the sum of all 6-digit CIP programs.
Associate degrees per FTE (%)	Calculated	This variable was calculated by dividing the number of associate degrees awarded by the FTE enrollment, and multiplying by 100.
Bachelor's degrees offered (yes/no)	Downloaded	Bachelor's degree or equivalent
Bachelor's degrees (number awarded)	Downloaded	This variable is derived directly from the completions survey grand total for first majors and bachelor's degree and the sum of all 6-digit CIP programs.
Bachelor's degrees per FTE (%)	Calculated	This variable was calculated by dividing the number of bachelor's degrees awarded by the FTE enrollment, and multiplying by 100.

The data from this query was downloaded into a Microsoft Excel spreadsheet. The data from this spreadsheet was then uploaded to The Statistical Package for the Social Sciences (SPSS), which is the program that was used to analyze the data for this study.

Data Analysis

One, Two, Three, and Four

Descriptive statistics (N , M , SD) were used to describe the data collected for all variables, 14 institutional characteristics for objective one, and degrees awarded as a percentage of full time equivalent students for objective three. These results report data un-weighted by institutional population descriptors. For the second and fourth objectives, Pearson (r) product-moment correlation was used to describe the relationships between the institutional characteristics, the awarding of bachelor's degrees, and the awarding of associate degrees as a percentage of full time equivalent students. The effect size interpretation for the correlation coefficients reported in objectives two and four are listed in Table 4, Hinkle et al. (2003).

Table 4. Descriptors for Interpreting the Effect Size for the Correlation Coefficient, Hinkle, Wiersma & Jurs (2003)

r	Effect size interpretation
$\pm .90$ to 1.00	Very high correlation
$\pm .70$ to $.89$	High correlation
$+.50$ to $.69$	Moderate correlation
$+.30$ to $.49$	Low correlation
$\pm .01$ to $.29$	Little, if any correlation

Objective Five

For objective five, forward regression analysis was used to determine if a model exists to explain an important proportion of the variance in the percentage of associate degrees awarded as a percentage of full time equivalent students. The potential explanatory variables are the

institutional characteristics in objective one and the type, associate or bachelors, of degrees awarded in objective three.

After taking out all non-regionally accredited schools and before executing the multiple regression techniques, the IPEDS data set was examined to make sure it met the three basic presumptions of multiple regression: (a) normality, (b) linearity, and (c) homoscedasticity (Mertler & Vannatta, 2005). Institutions that did not provide complete data for the research question were deleted. Data was also examined for univariate or multivariate outliers (Mertler & Vannatta, 2005). It is important to scan for univariate outliers since a couple of institutions with extreme data can considerably distort research findings (Mendenhall & Sincich, 1996). Data was turned into z-scores. Any z value greater than 3.29 or under -3.29 were looked at as an outlier and omitted (Stevens, 1996).

The identification of multivariate outliers used Mahalanobis distance. This method is useful in finding, "unusual combinations, or scores on two or more variables" (Mertler & Vannatta, 2005, p. 29). First, the Mahalanobis distance for each institution was calculated. Institutions that had a Mahalanobis distance that surpasses the Chi-square critical value were removed, as suggested by Mertler & Vannatta (2005) (Burton, 2011).

Tolerance data was used to test for multicollinearity. Multicollinearity poses a problem when potential explanatory (independent) variables are intercorrelated. The R^2 statistic may be limited since several variables may be calculating the same phenomenon (Mertler & Vannatta, 2005).

Given that data for the entire population was examined, inferential statistics are not appropriate. Effect size measures are used to interpret any essential associations or variance described. The multiple regression coefficient, R^2 , is an acknowledged means of measuring

effect size (Cohen, 1988). SPSS determined this coefficient, which signifies the proportion of variance inside the dependent variable explained by means of the independent variable(s). The effect size for R^2 was construed using Cohen's descriptors for the R^2 coefficient (Table 5) (Burton, 2011).

Table 5. Cohen's (1988) Descriptors for Interpreting the Effect Size for the R^2 Coefficient

R^2	Effect size interpretation
.0196-.1299	Small effect size
.1300-.2599	Medium effect size
.2600 or larger	Large effect size

Pilot Test

A pilot test was carried out to evaluate information retrieval methods, data availability, and to carry out a general evaluation of the IPEDS database's viability for this study. The data collection techniques mentioned previously were employed to collect data for the pilot test. This pilot test was developed and used to revise data extraction techniques and calculations.

Institutional Review Board Approval

Approval for this study was acquired using the Louisiana State University Institutional Assessment Board (IRB) for Human Subject's Protection. The authorized application is presented in Appendix A.

CHAPTER 4: RESULTS

Restatement of Purpose

The purpose of this study was to examine the relationship between the initiation of bachelor's degree programs at public community colleges in the United States, as defined by the Integrated Postsecondary Education Data System (IPEDS), and their level of performance in granting associate degrees. This study also examined the relationship between institutional characteristics of community colleges and the granting of associate degrees.

Organization of the Chapter

This chapter provides an overview of the population under examination, the methods of data extraction and preparation employed, and the statistical methodologies used. These are followed by an examination of the five objectives for this study, as described in earlier chapters.

Description of the Population

The total population ($N = 1054$) for this study included all public community colleges in the United States that offer associate degrees, including those awarding bachelor's degrees. This data is contained in the Integrated Postsecondary Education Data System (IPEDS). In order to be eligible for financial aid, higher education institutions are required to submit data related to their institutions to IPEDS. Only institutions accredited by a recognized governing body were included.

Data Collection, Preparation, and Screening

The educational variables were downloaded from the IPEDS website (<http://nces.ed.gov/ipeds/>). Data was collected on the 2009-2010 academic year, as this comprised the most recent and complete set of information. Most variables were downloaded directly from IPEDS; however some were calculated from a combination of IPEDS variables. A

description of the variables used in this study is provided in Table 3 and in Appendix B. These variables include:

- Full-time fall enrollment
Total men and women enrolled for credit full time in the fall of the academic year.
- Part-time enrollment
Total men and women enrolled for credit part time in the fall of the academic year.
- Full-time equivalent enrollment – FTE
This variable is derived from the enrollment by race/ethnicity section of the fall enrollment IPEDS survey. The full-time equivalent of the institution's part-time enrollment is estimated and then added to the full-time enrollment of the institution. This formula is used to produce the full-time equivalent enrollment that is published annually in the IPEDS Digest of Education Statistics.
- Total core expenses per FTE enrollment
FTE enrollment was used as an intermediate variable in order to calculate associate degrees and bachelor's degrees awarded per FTE. It was not used as a direct predictor in this study
This was calculated as the sum of instruction expenses, research expenses, public service expenses, academic support expenses, student service expenses, institutional support expenses, and all other core expenses, each per FTE enrollment, and for public institutions using Governmental Accounting Standards Board (GASB) 34/35 standards.
- Instructional expenses (%total core expenses)
Instruction expenses as a percent of total core expenses for public institutions using GASB 34/35 standards.
- Average salaries per FTE staff
Average salary equated to 9-month contracts of full-time instructional faculty - all ranks were derived by summing the equated 9-month outlays for each rank and dividing by the total faculty on both 9/10 month and 11/12 month contracts.
- Cost of attendance (in-state students, off-site)
Cost of attendance for full-time, first-time degree/certificate seeking in-state undergraduate students living off campus (not with family). It includes in-state tuition and fees, books and supplies, off campus (not with family) room and board, and other off campus (not with family) expenses.
- Percent receiving federal, state, or institutional grant aid (Enroll. %)
Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid (grants/educational assistance funds). Any grant aid includes Federal, State and local government grants and institutional grants.
- Receiving Pell grants (Enroll. %)
Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received Pell grants. Pell Grant program (Higher Education Act of 1965, Title IV, Part A, Subpart I, as amended.) provides grant assistance to eligible

- undergraduate postsecondary students with demonstrated financial need to help meet education expenses.
- Receiving federal loan aid (Enroll. %) Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received Federal loans. Loans to students - Any monies that must be repaid to the lending institution for which the student is the designated borrower. Includes all Title IV subsidized and unsubsidized loans and all institutionally- and privately-sponsored loans. Does not include unsubsidized and other loans made directly to parents.
 - White, non-Hispanic (Enroll. %) Percent of student body that is White non-Hispanic in the fall of the academic year. This variable is derived from the enrollment component that is collected in the winter and spring IPEDS surveys. White, non-Hispanic - A person having origins in any of the original peoples of Europe, North Africa, or the Middle East (except those of Hispanic origin).
 - African American, non-Hispanic (Enroll. %) Percent of student body that is African American non-Hispanic in the fall of the academic year. This variable is derived from the enrollment component that is collected in the winter and spring IPEDS surveys. African American non-Hispanic - A person having origins in any of the African American racial groups of Africa (except those of Hispanic origin).
 - Hispanic/Latino (Enroll. %) Percent of student body that is Hispanic in the fall of the academic year. This variable is derived from enrollment component that is collected in the winter and spring IPEDS surveys. Hispanic - A person of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin, regardless of race.
 - Associate degrees offered (yes/no) Associate degree - An award that normally requires at least 2 but less than 4 years of full-time equivalent college work.
 - Associate degrees (number awarded) This variable is derived directly from the IPEDS completions survey grand total for first majors and Associate's degree and the sum of all 6-digit CIP programs.
 - Associate degrees per FTE (%) This variable was calculated by dividing the number of associate degrees awarded by the FTE enrollment, and multiplying by 100.
 - Bachelor's degrees offered (yes/no) Bachelor's degree or equivalent
 - Bachelor's degrees (number awarded) This variable is derived directly from the completions survey grand total for first majors and bachelor's degree and the sum of all 6-digit CIP programs.
 - Bachelor's degrees per FTE (%) This variable was calculated by dividing the number of bachelor's degrees awarded by the FTE enrollment, and multiplying by 100.

For accreditation information, the most recent (March 2012) Database of Accredited Postsecondary Institutions and Programs was downloaded from the U.S. Department of Education's Office of Postsecondary Education (OPE) website.

(<http://ope.ed.gov/accreditation/Index.aspx>) (Appendix B).

Data from IPEDS was merged with the accreditation information in order to select only institutionally accredited schools for this study. Of the 1054 schools, 23 were not contained in the accreditation database and were removed. Furthermore, six schools contained in the database were not accredited during the 2009-2010 academic year, and were similarly discarded. One school was also removed from the database due to missing data on all but one IPEDS data field (Community College of the Air Force). Thus, the final sample consisted of 1024 schools. There were not complete data on all relevant variables for all schools. Therefore, the number of schools varied per analysis.

Statistical Methodology

This study can be thought of as a census study containing the entire population. Hence, the use of inferential statistics – statistics calculated from a study sample in order to make generalizations about a larger study target population – is not always appropriate. Descriptive statistics are generally sufficient as there is no “prediction” involved. Statistics on the size of the relationships (e.g., effect size) provides valuable description on the magnitude of the observed effects. However, this study population can also be considered a sample of the wider population of current and *future* schools. In this case, inferential statistics and probability values can provide useful information for prediction. To satisfy both these possible criteria, both descriptive and inferential statistics are used in this study (Mertler & Vannatta, 2005).

There were five objectives in this research study. Objectives one and three required description of variables. This was accomplished using descriptive criteria, such as the mean,

standard deviation and minimum and maximum values. Quartiles provided insight into the distribution of each variable. This was supplemented by histograms providing a visual description of the distribution of values.

Objectives two and four required the examination of the relationships between variables. This was accomplished using Pearson product-moment correlation coefficients. The coefficients were interpreted in terms of their effect size, as provided by Hinckle et al. (2003). Statistical significance values are also reported.

The purpose of objective five was to build a model to predict the awarding of associate degrees per FTE from the institutional characteristics. This was achieved using multiple linear regression techniques. A forward selection procedure was used, in which variables are entered into the model based on the size of their partial correlation coefficients with the dependent variable. A cut-off value for which no further variables could be thought of as contributing useful information to model prediction was required; this was set at a probability value for the F-statistic of 0.05 (Mertler & Vannatta, 2005).

Parametric tests such as correlation and regression carry assumptions regarding the data, such as that the data are approximately normally distributed. Furthermore, both of these procedures are highly sensitive to outliers. The data was transformed using the Box-Cox procedure. In the Box-Cox transformation, an optimal power transformation (λ) is detected, where $W = Y^{*\lambda}$. As the Box-Cox transformation is only available for data that are positive, a constant of 1 was applied to any variable in which zero values were present. Although transformations are useful to correct non-normality in data, transformed variables can be difficult to interpret, as they are no longer on the original scale of the variable. Interpretation

of a variable with a negative exponent should be interpreted in the opposite direction if one is inferring relationships back to the original variable (Sakia, 1992).

Following each transformation, the variables were screened for univariate outliers. Data with standardized scores in excess of ± 3.29 were removed. For the regression analysis, multivariate outliers were removed using Mahalanobis distance values (Mertler & Vannatta, 2005).

The details of each variable transformation and outlier removal are shown in Table 6. The values of skewness and kurtosis are shown, as well as the Shapiro-Wilk statistic for assessing normality. The Shapiro-Wilk statistic tests the null hypothesis that the data are from a normally distributed population. Although many of the variables had significant Shapiro-Wilk statistics (i.e., as represented by a p-value of less than .05), each parameter was significantly improved by the transformation in relation to the distribution of the original variable.

Objective 1: Description of Institutional Characteristics for Public Community Colleges in the United States

The purpose of this objective was to describe the institutional characteristics for public community colleges in the United States, as they pertain to 13 of these characteristics, and the dependent variables of the total number of associate degrees awarded and the associate degrees awarded as a percentage of FTE. Descriptive statistics are shown in Table 7. The number of values, mean, standard deviation, and minimum and maximum observed values are listed. The median is also shown to provide additional information on the distributions. Furthermore, the histograms showing the distribution of each variable are shown in Figures 2 to 11.

Table 6. Summary of Variable Transformations on and Distribution Statistics of 2009-2010 IPEDS Data Included in the Research Study

Variable	Original N	Linear Trans-formation	Box-Cox trans-formation (lambda)	Number of outliers removed (\pm 3.29)	New N	Skewness (S.e.)	Kurtosis (S.e.)	Shapiro-Wilk Statistic (p-value)
Full-time fall enrollment	1,024	+1	0.10	1	1023	-0.87 (.076)	-0.86 (.153)	.998 (<.303)
Part-time enrollment	1,023	+1	0.14	1	1022	.067 (.077)	-.047 (.153)	.998 (<.203)
Total core expenses per FTE student	1,004	None	-0.50	5	999	.011 (.077)	.222 (.155)	.997 (<.094)
Instructional expenses (%total core expenses)	1,007	None	1.0 (none)	3	1004	.032 (.077)	.134 (.154)	.997 (<.120)
Average salaries per FTE staff	1,022	None	0.24	3	1019	.435 (.077)	-.148 (.153)	.980 (<.001)
Cost of attendance (in-state students, off-site)	996	None	0.50	5	991	.100 (.078)	.366 (.155)	.995 (<.005)
Receiving federal, state, or institutional grant aid (Enroll. %)	1,001	None	1.49	0	1001	.020 (.077)	-.772 (.154)	.986 (<.001)
Receiving Pell grants (Enroll. %)	1,001	None	1.0 (none)	0	1001	.096 (.077)	.025 (.154)	.998 (<.272)

Table 6 (continued)

Variable	Original N	Linear Trans-formation	Box-Cox trans-formation (lambda)	Number of outliers removed (\pm 3.29)	New N	Skewness (S.e.)	Kurtosis (S.e.)	Shapiro-Wilk Statistic (p-value)
Receiving federal loan aid (Enroll. %)	1,001	+1	0.39	0	1001	-.172 (.077)	-1.186 (.154)	.933 (<.001)
White, non-Hispanic (Enroll. %)	1,024	+1	1.18	0	1024	-.568 (.076)	-.524 (.153)	.953 (<.001)
Black, non-Hispanic (Enroll. %)	1,024	+1	0.00 (log)	0	1024	.025 (.076)	-.794 (.153)	.979 (<.001)
Hispanic/Latino (Enroll. %)	1,024	+1	-0.12	0	1024	-.270 (.076)	-.811 (.153)	.958 (<.001)
Associates degrees – number awarded	1,008	+1	0.15	8	1000	-.089 (.077)	.395 (.155)	.996 (<.017)
Associate degrees per FTE (%)	1,008	+1	0.50	13	995	-.224 (.078)	.882 (.155)	.990 (<.001)
Bachelor's degrees – number awarded	51	+1	-0.27	0	51	.114 (.333)	-1.773 (.656)	.793 (<.001)
Bachelor's degrees per FTE (%)	51	+1	-2.00	0	51	-.320 (.333)	-1.486 (.656)	.833 (<.001)

Note. Analyses were conducted using SPSS v.17 (2008). The determination of the Box-Cox transformation lambdas was calculated using Minitab v.16 (2010).

The mean full-time enrollment was almost 3,000 students (2,987.53), with a range from 0 to over 22,000 students (Table 7). The median number of students was close to 2,000 (2,159.50) indicating positive skewness of the variable. This is depicted in Figure 2. The bulk of the distribution was contained within the range of 0 to 12,000 students, with a few outliers beyond this point.

Table 7. Description of Institutional Characteristics for Public Community Colleges in the United States

Variable	N	Mean	SD	Min	Max	Median
Full-time fall enrollment	1,024	2,987.53	2,790.63	0	22,313	2,159.50
Part-time enrollment	1,023	4,383.58	5,025.71	0	38,121	2,685.00
Total core expenses per FTE student	1,004	\$10,544.46	\$3,276.33	\$3,741	\$32,900	\$9,983.00
Instructional expenses (% total core expenses)	1,007	45.15%	8.42%	17%	80%	45%
Average salaries per FTE staff	1,022	\$56,614.35	\$13,860.84	\$14,950	\$112,723	\$53,826
Cost of attendance (in-state students, off-site)	996	\$15,169.19	\$3,287.17	\$2,217	\$30,901	\$14,945.50
Receiving federal, state, or institutional grant aid (Enroll. %)	1,001	66.85%	17.86%	18%	100%	68%
Receiving Pell grants (Enroll. %)	1,001	51.53%	15.86%	0%	100%	51%
Receiving federal loan aid (Enroll. %)	1,001	24.26%	21.68%	0%	93%	20%
White, non-Hispanic (Enroll. %)	1,024	61.95%	23.77%	0%	99%	67%
African American, non-Hispanic (Enroll. %)	1,024	14.15%	16.46%	0%	97%	8%
Hispanic/Latino (Enroll. %)	1,024	10.68%	15.43%	0%	100%	4%
Associate degrees, number awarded	1,008	588.79	656.71	0	9,090	406.00
Associate degrees per FTE (%)	1,008	13.42%	6.08%	0%	110.71%	13.13%

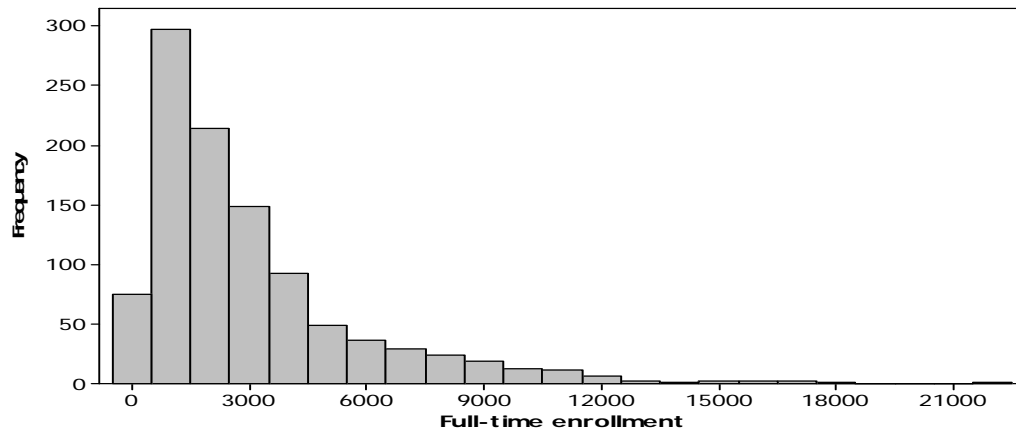


Figure 2. Full-time 2009-2010 Fall Enrollment in Public Community Colleges in the United States

Average part-time enrollment was over 4,000 students (4,383.58) although the median was 285.00 (Table 7), indicating considerable positive skew (Figure 3).

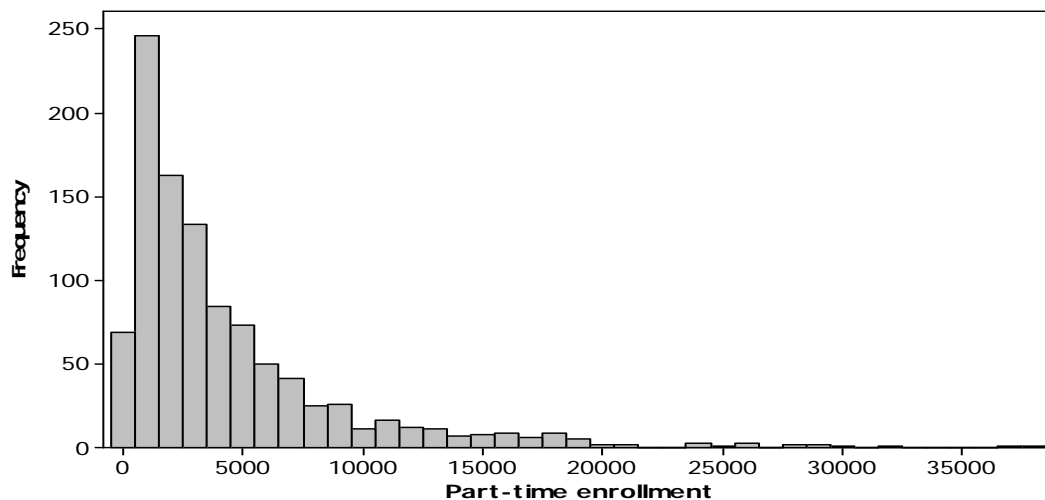


Figure 3. Part-time 2009-2010 Fall Enrollment in Public Community Colleges in the United States

The total core expenses per FTE student averaged \$10,544.46 with a similar median figure of \$9,983.00 (Table 7). As seen in Figure 4, the distribution contained a few outliers above \$20,000 but was otherwise, relatively normally distributed.

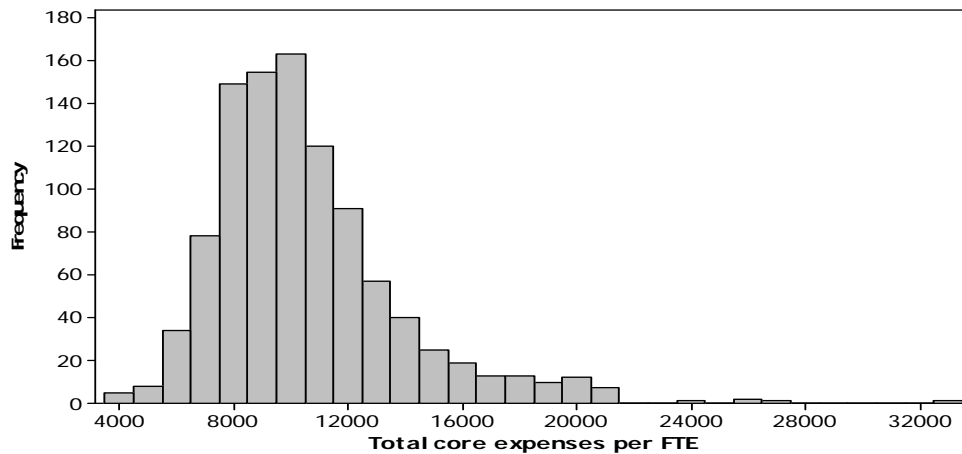


Figure 4. Total Core Expenses per FTE for 2009-2010 for Public Community Colleges in the United States

The mean cost for instruction expenses as a percentage of total core expenses was 45.15%, with a range of 17% to 80% (Table 7). The data were normally distributed (Figure 5).

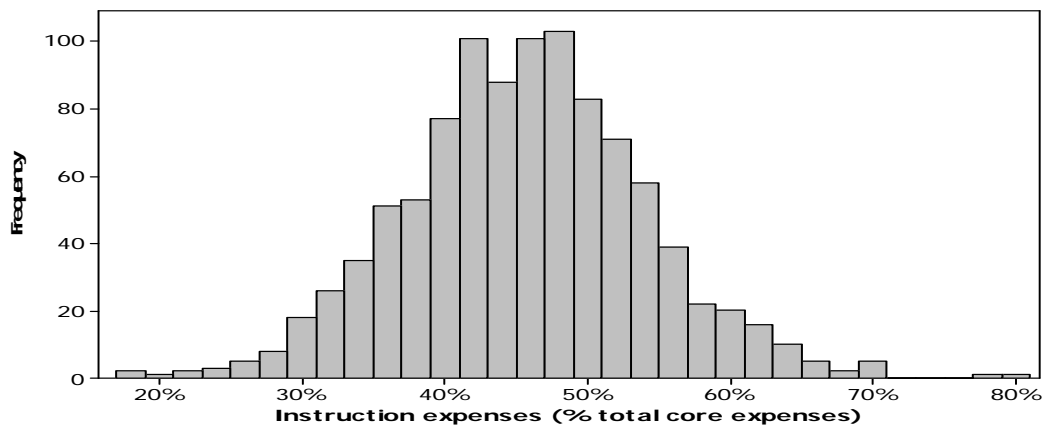


Figure 5. Instructional Expenses as a Percentage of Total Core Expenses for 2009-2010 in Public Community Colleges in the United States

The average salary per FTE staff was \$56,614.35, with a range from below \$15,000 to over \$110,000 dollars (Table 7). The data were relatively normally distributed (Figure 6), with a few isolated outliers at the low and high ends of the distribution.

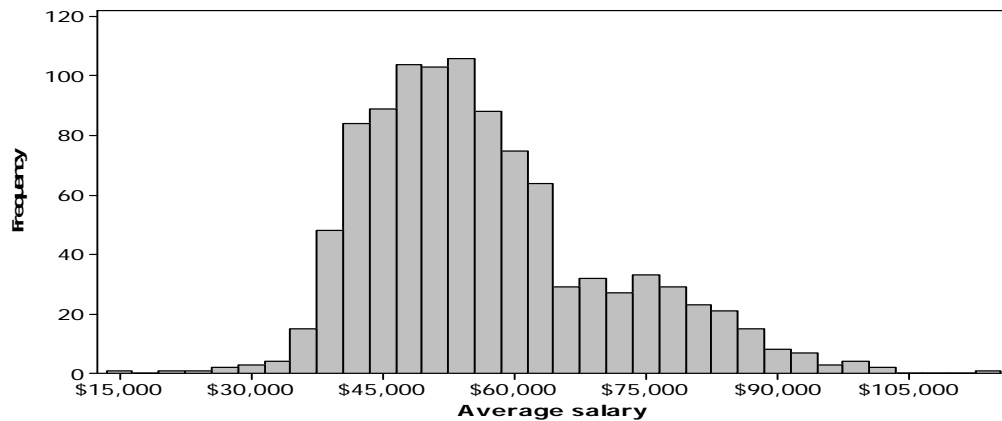


Figure 6. Average Salary per FTE Staff for 2009-2010 for Public Community Colleges in the United States

The total cost of attendance for in-state students living off-site averaged \$15,169.19 within a range of \$2,217 and \$30,901 (Table 7). The data followed a normal distributional pattern with a few outliers at the low and high ends of the range (Figure 7).

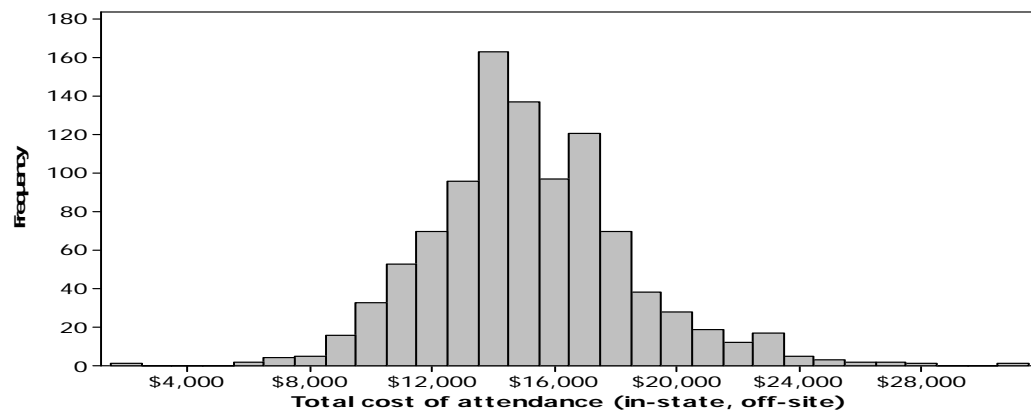


Figure 7. Total Cost of Attendance, for In-state Students Living off-site for 2009-2010 for Public Community Colleges in the United States

The percent of students receiving any grant aid, including federal, state, local, or institutional averaged 66.85%, with a range of 18% to 100% and a median of 68% (Table 7). As seen in Figure 8, the distribution was relatively normal with a slight negative skew. The mean percent of students receiving Pell grants was 51.53% (Table 7) with a normal distribution (Figure

8). In contrast, the average percent of students receiving federal loan aid was 24.26% with a range of 0-93% and a median of 20% (Table 7). The variable was significantly positively skewed (Figure 8) with a large proportion of schools having zero students with federal loan aid.

The average percentage of enrolled students that were White, non-Hispanic was 61.95% with a median of 67% and a range of 0-99% (Table 7). This variable had a slight negative skew (Figure 9), indicating comparatively few schools with low enrollment percentages of White students. The mean percentage of Black, non-Hispanic students was 14.15%, with a lower median of 8% and a considerable range (0-97%) (Table 7). Data were significantly negatively skewed with a few outliers over 75% (Figure 9). The mean percentage of Hispanic students was 10.68%, also with a lower median of 4% (Table 7). The variable ranged from 0-100% but was significantly negatively skewed (Figure 9).

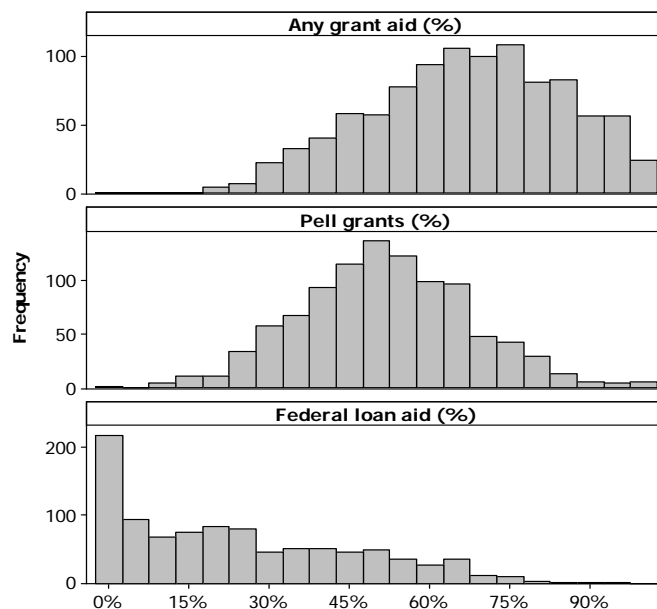


Figure 8. Histograms of Enrollment Percentage Receiving any Grant Aid (federal, state, local, or institutional), Percentage Receiving Pell Grants, and Percentage Receiving Federal Loan Aid

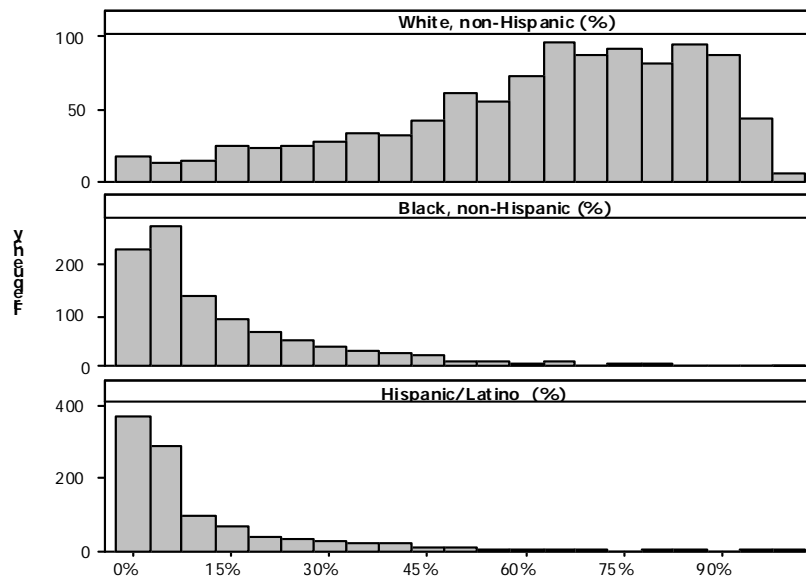


Figure 9. Histograms of Enrollment Percentages of White, non-Hispanic, Black, non-Hispanic, and Hispanic/Latino Students

The dependent variables in this study are the number of associate degrees awarded in total, and as a percentage of FTE. The average number of associate degrees awarded was 588.79, with a range of 0 to 9,090 (Table 7). The median number was 406.00 degrees awarded. As seen in Figure 10, the vast majority of schools had less than 2,500 associate degrees awarded.

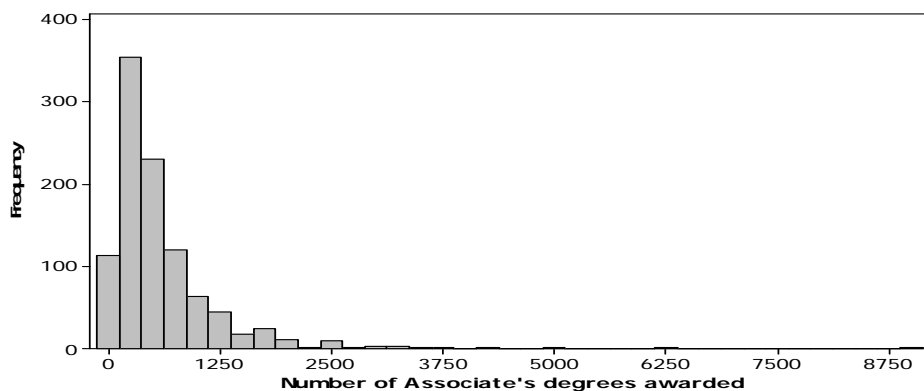


Figure 10. Number of Associate Degrees Awarded for 2009-2010 by Public Community Colleges in the United States

The average number of associate degrees per FTE was 13.42%, with a range of 0% to 110.71% (Table 7). The median and quartile values indicated significant positive skew. The majority of values fell at less than 30% (Figure 11).

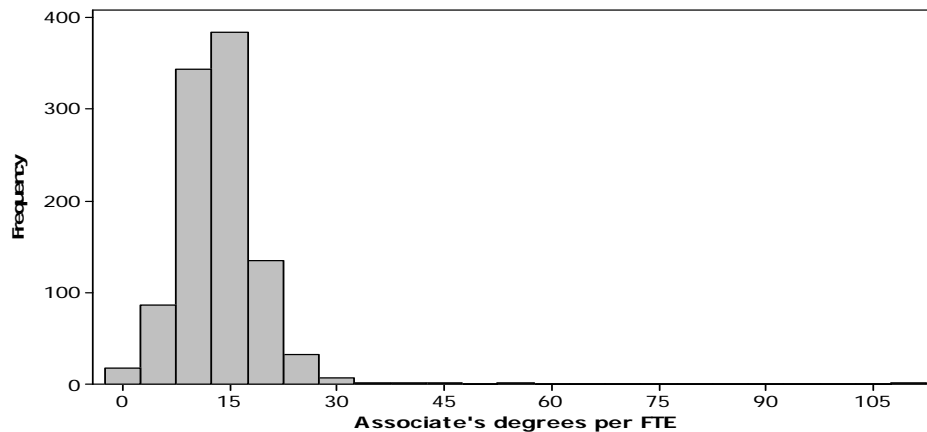


Figure 11. Associate degrees awarded per FTE student for 2009-2010 by Public Community Colleges in the United States

Objective 2: Relationship between Institutional Characteristics and Awarding of Associate Degrees

The transformed data set (Table 6, p 95-96) was used to study this objective. The reason for this choice is that the correlation procedure, which was used to study the relationships between institutional characteristics and the awarding of associate degrees, assumes that the data are normally distributed. However, as seen in Table 6, many of the variables in the raw data had skewed distributions and outliers, when subjected to the Box-Cox transformation to correct for non-normality. In the Box-Cox transformation, an optimal power transformation (λ) is detected where $W=Y^{**}\lambda$. As the Box-Cox transformation is only available for data that are positive, a constant of 1 is applied to any variable in which zero values are present. Although transformations are useful to correct for non-normality in data, transformed variables are difficult to interpret, as they are no longer on the original scale of the variable. Interpretation of a

variable with a negative exponent should be interpreted in the opposite direction if one is inferring relationships back to the original variable (Sakia, 1992).

The Pearson product-moment correlation procedure was used to evaluate the relationships between the characteristics of the institutions and the number of associate degrees awarded and the FTE percentage of associate degrees awarded. Coefficient values were assessed following the interpretation of effect size by Hinkle et al. (2003). Missing data points were removed on a pair-wise basis; thus the number of schools varied by analysis.

The data on institutional characteristics in the form of transformed variables were grouped into four themes to present the results of the Pearson product-moment correlations and effect size interpretations of the relationships expressed by the correlation coefficients. The themes under which institutional characteristics were grouped were (a) Enrollment, (b) Institutional Expenses, (c) Student Expenses and Aid, and (d) Demographics. The results of the correlation analyses and the effect size interpretations are presented in Tables 8-11.

Each table shows the number of observations of the paired variables (n), the Pearson product-moment correlation coefficients (r values) of the paired variables, the probability levels of statistical significance of the correlation coefficients (p), and the interpretation of the effect size of the relationships expressed by the correlation coefficients. Effect size interpretations of the relationships expressed by the correlation coefficients as suggested by Hinkle et al. (2003) were as follows:

Correlation coefficient (r)	Effect Size
.90 - 1.00	Very high correlation
.70 - .89	High correlation
.50 - .69	Moderate correlation
.30 - .49	Low correlation
.01 - .29	Little, if any, correlation

Relationships among Transformed Variables and Enrollment

Institutional characteristics pertaining to the 2009-2010 fall enrollment data were (a) fulltime enrollment and (b) part-time enrollment. These were studied for relationships with other institutional characteristics and the number and percent FTE of associate degrees awarded. The results presented in Table 8 show all bivariate correlations for the transformed variables of institutional characteristics, associate degrees awarded (number and per cent of FTE) by full-time enrollment and part-time enrollment.

It will be seen from Table 8 that a majority of the relationships between full-time enrollment and part-time enrollment and institutional characteristics were highly statistically significant or statistically significant. When the effect sizes of the correlation coefficients for these relationships were examined, however, one relationship was interpreted as a very high correlation, one relationship was interpreted as a high correlation, and two relationships were interpreted to be a moderate correlation. Fulltime enrollment had the largest correlation coefficient with the number of associate degrees awarded ($r=.902$, $p<.001$), and the effect size was interpreted as a very high correlation. The relationship between part-time enrollment and the number of associate degrees awarded had a correlation coefficient of $r=.801$ ($p<.001$), with an effect size interpretation of a high correlation. The relationship between part-time enrollment and the average salary of instructional staff was interpreted as a moderate correlation ($r=.563$, $p<.001$). The relationship between part-time enrollment and percentage of total enrolment that was Hispanic was interpreted as a moderate correlation ($r=-.516$, $p<.001$). All other relationships between full-time enrollment and part-time enrollment and institutional characteristics were interpreted on effect size of their correlation coefficients to have low correlation or little, if any, correlation.

Table 8. Relationships between Enrollment, Institutional Characteristics, and Number of Associate Degrees Awarded, and the Percent FTE of Associate Degrees Awarded as Transformed Variables for Public Community Colleges in the United States

Institutional Characteristic	Statistic	Full-time enrollment (#)	Part-time enrollment (#)
Associate Degrees Awarded (#)	n	999	998
	r	.902	.801
	p	<.001	<.001
	Effect size	Very high correlation	High correlation
Associate Degrees Awarded (% FTE)	n	995	993
	r	-.040	-.165
	p	<.210	<.001
	Effect size	Little, if any, correlation	Little, if any, correlation
Total core institutional expenses (\$ per FTE student)	n	998	997
	r	.334	.333
	p	<.001	<.001
	Effect size	Low correlation	Low correlation
Instructional expenses (% of total core expenses)	n	1003	1002
	r	.149	.114
	p	<.001	<.001
	Effect size	Little, if any, correlation	Little, if any, correlation
Average instructional staff salary (\$)	n	1018	1017
	r	.477	.563
	p	<.001	<.001
	Effect size	Low correlation	Moderate correlation
Cost of attendance (\$)	N	991	990
	r	.186	.233
	p	<.001	<.001
	Effect size	Little, if any, correlation	Little, if any, correlation
Grant aid (%)	n	1001	999
	r	-.327	-.425
	p	<.001	<.001
	Effect size	Low correlation	Low correlation
Pell grants (%)	n	1001	999
	r	-.256	-.353
	p	<.001	<.001
	Effect size	Little, if any, correlation	Low correlation
Federal loans (%)	n	1001	999
	r	-.001	-.169
	p	<.969	<.001
	Effect size	Little, if any, correlation	Little, if any, correlation

Table 8 (continued)

Institutional Characteristic	Statistic	Full-time enrollment (#)	Part-time enrollment (#)
White (% total enrollment)	N	1023	1022
	r	-.212	-.338
	p	<.001	<.001
	Effect size	Little, if any, correlation	Low correlation
Black (% total enrollment)	n	1023	1022
	r	.099	.067
	p	<.002	<.033
	Effect size	Little, if any, correlation	Little, if any, correlation
Hispanic (% total enrollment)	n	1023	1022
	r	-.334	-.516
	p	<.001	<.001
	Effect size	Low correlation	Moderate correlation

Relationships among Transformed Variables and Institutional Expenses

Institutional characteristics, grouped under institutional expense, pertaining to the 2009-2010 fall enrollment data were (a) total core expenses per FTE, (b) instruction expenses as a percentage of total core expenses and (c) average salary. These were studied for relationships with other institutional characteristics and the number and percent FTE of associate degrees awarded. The results presented in Table 9 show all bivariate correlations for the transformed variables of institutional characteristics, associate degrees awarded (number and per cent of FTE) by total core expense per FTE, instruction expenses as a percentage of total core expenses, and average salary.

It will be seen from Table 9 that a majority of the relationships between total core expense per FTE, instruction expenses as a percentage of total core expenses, and average salary, and institutional characteristics, were highly statistically significant or statistically significant. When the effect sizes of the correlation coefficients for these relationships were examined,

however, one relationship was interpreted to be a moderate correlation. Average salary for instructional staff had the largest correlation coefficient with part-time enrollment ($r=.563$, $p<.001$), and the effect size was interpreted as a moderate correlation. All other relationships between institutional expenses and institutional characteristics were interpreted on effect size of their correlation coefficients to have low correlation or little, if any, correlation.

Table 9. Relationships between Institutional Expenses, Institutional Characteristics, and Number of Associate Degrees Awarded, and the Percent FTE of Associate Degrees Awarded as Transformed Variables for Public Community Colleges in the United States

Institutional Characteristic	Statistic	Total core expenses per FTE	Instruction expenses (% total core)	Average Salary
Associate Degrees Awarded (#)	n	993	996	995
	r	.247	.154	.438
	p	<.001	<.001	<.001
	Effect size	Little, if any correlation	Little, if any correlation	Low correlation
Associate Degrees Awarded (% FTE)	n	988	991	991
	r	-.204	.038	-.131
	p	<.001	<.230	<.001
	Effect size	Little, if any correlation	Little, if any correlation	Little, if any correlation
Full time enrollment	n	998	1003	1018
	r	.334	.149	.477
	p	<.001	<.001	<.001
	Effect size	Low correlation	Little, if any correlation	Low correlation
Part time enrollment	n	997	1002	1017
	r	.333	.114	.563
	p	<.001	<.001	<.001
	Effect size	Low correlation	Little, if any correlation	Moderate correlation
Cost of attendance (\$)	n	967	973	987
	r	.082	.043	.300
	p	<.011	<.176	<.001
	Effect size	Little, if any correlation	Little, if any correlation	Low correlation
Grant aid (%)	n	993	997	996
	r	-.073	-.247	-.474
	p	<.021	<.001	<.001

Table 9 (continued)

Institutional Characteristic	Statistic	Total core expenses per FTE	Instruction expenses (% total core)	Average Salary
	Effect size	Little, if any correlation	Little, if any correlation	Low correlation
Pell grants (%)	n	993	997	996
	r	-.036	-.209	-.415
	p	<.251	<.001	<.001
	Effect size	Little, if any correlation	Little, if any correlation	Low correlation
Federal loans (%)	n	993	997	996
	r	-.142	.043	-.156
	p	<.001	<.172	<.001
	Effect size	Little, if any correlation	Little, if any correlation	Little, if any correlation
White (% total enrollment)	n	999	1004	1019
	r	-.087	.121	-.294
	p	<.006	<.001	<.001
	Effect size	Little, if any correlation	Little, if any correlation	Little, if any correlation
Black (% total enrollment)	n	999	1004	1019
	r	.182	.006	-.125
	p	<.001	<.850	<.001
	Effect size	Little, if any correlation	Little, if any correlation	Little, if any correlation
Hispanic (% total enrollment)	n	999	1004	1019
	r	-.104	.065	-.435
	p	<.001	<.041	<.001
	Effect size	Little, if any correlation	Little, if any correlation	Low correlation

Relationships among Transformed Variables and Student Expenses and Aid

Institutional characteristics, grouped under student expenses and aid, pertaining to the 2009-2010 fall enrollment data were (a) cost of attendance, (b) grant aid, (c) Pell grants and (d) federal loans. These were studied for relationships with other institutional characteristics and the number and percent FTE of associate degrees awarded. The results presented in Table 10 show all bivariate correlations for the transformed variables of institutional characteristics, associate

degrees awarded (number and per cent of FTE) by cost of attendance, grant aid, Pell grants and federal loans.

It will be seen from Table 10 that a majority of the relationships between cost of attendance, grant aid, Pell grants, and federal loans, and institutional characteristics, were highly statistically significant or statistically significant. However, all relationships between student expenses and institutional characteristics were interpreted on effect size of their correlation coefficients to have low correlation or little, if any, correlation.

Table 10. Relationships between Student Expenses and Aid, Institutional Characteristics, and Number of Associate Degrees Awarded, and the Percent FTE of Associate Degrees Awarded as Transformed Variables for Public Community Colleges in the United States

Institutional Characteristic	Statistic	Cost of attendance	Grant aid (%)	Pell grants (%)	Federal loans (%)
Associate Degrees Awarded (#)	n	970	995	995	995
	r	.145	-.384	-.326	.065
	p	<.001	<.001	<.001	<.041
	Effect size	Little, if any correlation	Low correlation	Low correlation	Little, if any correlation
Associate Degrees Awarded (% FTE)	n	968	990	990	990
	r	-.106	-.037	-.083	.297
	p	<.001	<.245	<.009	<.001
	Effect size	Little, if any correlation	Little, if any correlation	Little, if any correlation	Little, if any correlation
Full time enrollment	n	991	1001	1001	1001
	r	.186	-.327	-.256	-.001
	p	<.001	<.001	<.001	<.969
	Effect size	Little, if any correlation	Low correlation	Little, if any correlation	Little, if any correlation
Part time enrollment	n	990	999	999	999
	r	.233	-.425	-.353	-.169
	p	<.001	<.001	<.001	<.001
	Effect size	Little, if any correlation	Low correlation	Low correlation	Little, if any correlation
Total core expenses per FTE	n	967	993	993	993
	r	.082	-.073	-.036	-.142
	p	<.011	<.021	<.251	<.001
	Effect size	Little, if any correlation	Little, if any correlation	Little, if any correlation	Little, if any correlation

Table 10 (continued)

Institutional Characteristic	Statistic	Cost of attendance	Grant aid (%)	Pell grants (%)	Federal loans (%)
Instruction expenses (% total core)	n	973	997	997	997
	r	.043	-.247	-.209	.043
	p	<.176	<.001	<.001	<.172
Instruction expenses (% total core)	Effect size	Little, if any correlation	Little, if any correlation	Little, if any correlation	Little, if any correlation
Average salary (\$)	n	987	996	996	996
	r	.300	-.474	-.415	-.156
	p	<.001	<.001	<.001	<.001
	Effect size	Low correlation	Low correlation	Low correlation	Little, if any correlation
White (% total enrollment)	n	991	1001	1001	1001
	r	-.083	.002	-.104	.481
	p	<.009	<.961	<.001	<.001
	Effect size	Little, if any correlation	Little, if any correlation	Little, if any correlation	Low correlation
Black (% total enrollment)	n	991	1001	1001	1001
	r	-.041	.149	.179	-.244
	p	<.195	<.001	<.001	<.001
	Effect size	Little, if any correlation	Little, if any correlation	Little, if any correlation	Little, if any correlation
Hispanic (% total enrollment)	n	991	1001	1001	1001
	r	-.204	.282	.273	.248
	p	<.001	<.001	<.001	<.001
	Effect size	Little, if any correlation	Little, if any correlation	Little, if any correlation	Little, if any correlation

Relationships among Transformed Variables and Student Demographics

Institutional characteristics, grouped under student demographics, pertaining to the 2009-2010 fall enrollment data were (a) White student enrollment, (b) Black student enrollment and (c) Hispanic student enrollment. These were studied for relationships with other institutional characteristics and the number and percent FTE of associate degrees awarded. The results presented in Table 11 show all bivariate correlations for the transformed variables of institutional

characteristics, associate degrees awarded (number and per cent of FTE) by White student enrollment, Black student enrollment and Hispanic student enrollment.

It will be seen from Table 11 that a majority of the relationships between White enrollment, Black enrollment and Hispanic enrollment, were highly statistically significant or statistically significant. When the effect sizes of the correlation coefficients for these relationships were examined, however, there was one moderate correlation. Hispanic enrollment had the largest correlation coefficient with part time enrollment ($r=.512$, $p<.001$), and the effect size was interpreted as a moderate correlation.

All other relationships between student demographics and institutional characteristics were interpreted on effect size of their correlation coefficients to have low correlation or little, if any, correlation.

Table 11. Relationships between Student Demographics, Institutional Characteristics, and Number of Associate Degrees Awarded, and the Percent FTE of Associate Degrees Awarded as Transformed Variables for Public Community Colleges in the United States

Institutional Characteristic	Statistic	White	Black	Hispanic
Associate Degrees Awarded (#)	n	1000	1000	1000
	r	-.136	.047	-.322
	p	<.001	<.139	<.001
	Effect size	Little, if any correlation	Little, if any correlation	Low correlation
Associate Degrees Awarded (% FTE)	n	995	995	995
	r	.349	-.234	.117
	p	<.001	<.001	<.001
	Effect size	Low correlation	Little, if any correlation	Little, if any correlation
Full time enrollment	n	1023	1023	1023
	r	-.212	.099	-.334
	p	<.001	<.002	<.001
	Effect size	Little, if any correlation	Little, if any correlation	Low correlation
Part time enrollment	n	1022	1022	1022
	r	-.338	.067	-.516
	p	<.001	<.033	<.001

Table 11 (continued)

Institutional Characteristic	Statistic	White	Black	Hispanic
	Effect size	Low correlation	Little, if any correlation	Moderate correlation
Total core expenses per FTE	n	999	999	999
	r	-.087	.182	-.104
	p	<.006	<.001	<.001
	Effect size	Little, if any correlation	Little, if any correlation	Little, if any correlation
Instruction expenses (% total core)	n	1004	1004	1004
	r	.121	.006	.065
	p	<.001	<.850	<.041
	Effect size	Little, if any correlation	Little, if any correlation	Little, if any correlation
Average salary (\$)	n	1019	1019	1019
	r	-.294	-.125	-.435
	p	<.001	<.001	<.001
	Effect size	Little, if any correlation	Little, if any correlation	Low correlation
Cost of attendance (\$)	n	991	991	991
	r	-.083	-.041	-.204
	p	<.009	<.195	<.001
	Effect size	Little, if any correlation	Little, if any correlation	Little, if any correlation
Grant aid (%)	n	1001	1001	1001
	r	.002	.149	.282
	p	<.96 1	<.001	<.001
	Effect size	Little, if any correlation	Little, if any correlation	Little, if any correlation
Pell grants (%)	n	1001	1001	1001
	r	-.104	.179	.273
	p	<.001	<.001	<.001
	Effect size	Little, if any correlation	Little, if any correlation	Little, if any correlation
Federal loans (%)	n	1001	1001	1001
	r	.481	-.244	.248
	p	<.001	<.001	<.001
	Effect size	Low correlation	Little, if any correlation	Little, if any correlation

Objective 3: Description of Associate and Bachelor's Degrees Awarded by Community Colleges in the United States

The goal of this study objective was to describe associate degrees awarded as a percentage of FTE enrollment, bachelor's degrees awarded as a percentage of FTE enrollment, and total number of degrees for each, for community colleges in the United States. The descriptive statistics for these variables are shown in Table 12.

Table 12. Number and FTE Percentage of Associate and Bachelor's Degrees Awarded

Variable	N	Mean	SD	Min	Max	Median
Associate degrees, number awarded	1,008	588.79	656.71	0	9,090	406.00
Associate degrees per FTE (%)	1,008	13.42%	6.08%	0%	110.71%	13.13%
Bachelor's degrees, number awarded	51	35.04	56.94	0	264	9.00
Bachelor's degrees per FTE (%)	51	0.81%	1.62%	0%	8.73%	0.22%

The dependent variables in this study are the number of associate degrees awarded in total, and as a percentage of FTE. Associate degrees awarded were described previously in objective 1 (Table 7). The average number of associate degrees awarded was 588.79, although the distribution was significantly positively skewed. Seventy-five percent of the schools had less than 732 associate degrees awarded (75th percentile). The median number was 406.00 degrees awarded. As seen in Figure 12, the vast majority of schools had less than 2,500 associate degrees awarded.

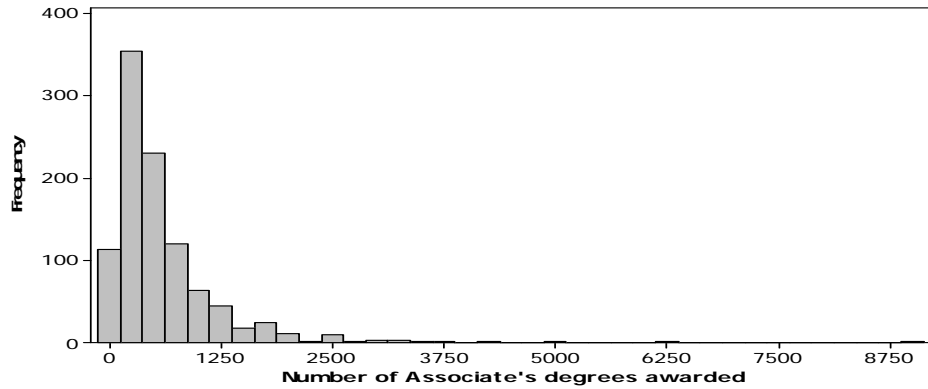


Figure 12. Number of Associate Degrees Awarded for 2009-2010 by Public Community Colleges in the United States

The average number of associate degrees per student FTE was 13.42%, with a range of 0% to 110.71%. The median and quartile values indicated significant positive skew. The majority of values fell at less than 30% (Figure 13).

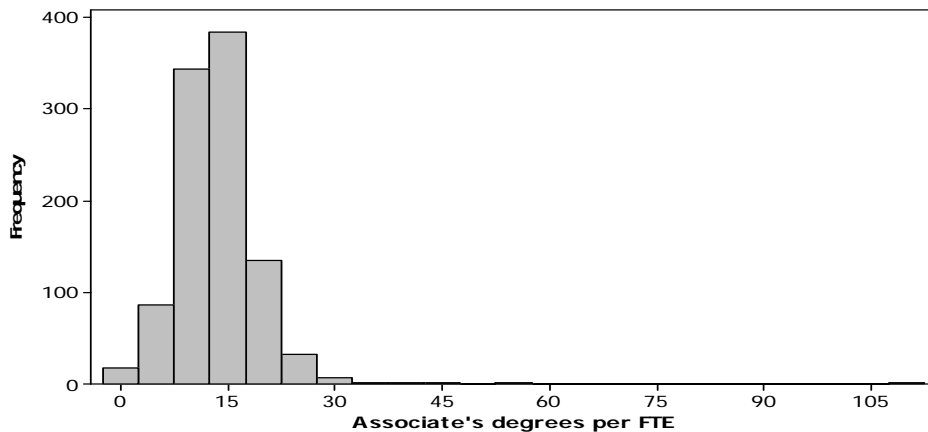


Figure 13. Associate Degrees Awarded per FTE student FTE for 2009-2010 by Public Community Colleges in the United States

Of the 1024 schools in the sample, 51 offered bachelor's degrees (5.0%). In these 51 schools, the mean number of bachelor's degrees awarded was 35.04, with a range of 0 to 264 and a median of 9.0. As seen in Figure 14, the variable was significantly positively skewed.

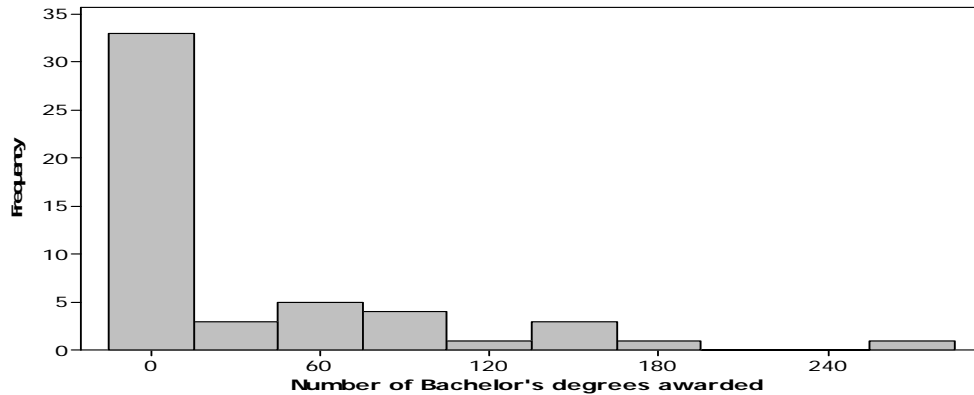


Figure 14. Number of Bachelor's Degrees Awarded for 2009-2010 by Public Community Colleges who also Award Bachelor's Degrees in the United States (N = 51)

The average number of bachelor's degrees awarded as a percentage of FTE students was 0.81%, with a range of 0 to 8.73%. The majority of schools awarded bachelor's degrees per FTE at a rate lower than 1.0% (Figure 15).

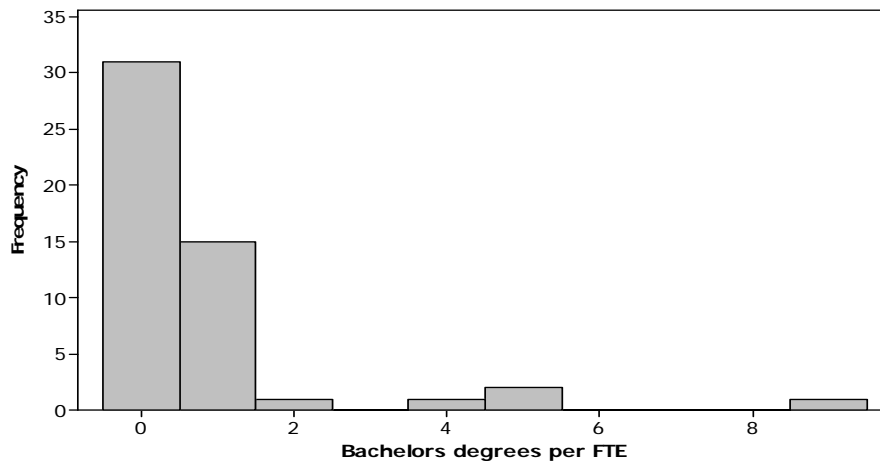


Figure 15. Bachelor's Degrees Awarded per FTE Student for 2009-2010 by Public Community Colleges who also Award Bachelor's Degrees in the United States (N = 51)

A comparison of the number and FTE percentage of associate and bachelor's degrees awarded is provided graphically in Figures 16 and 17. As indicated in Table 12, significantly

more associate than bachelor's degrees were awarded, both in terms of absolute number of degrees and the FTE percentage of degrees awarded.

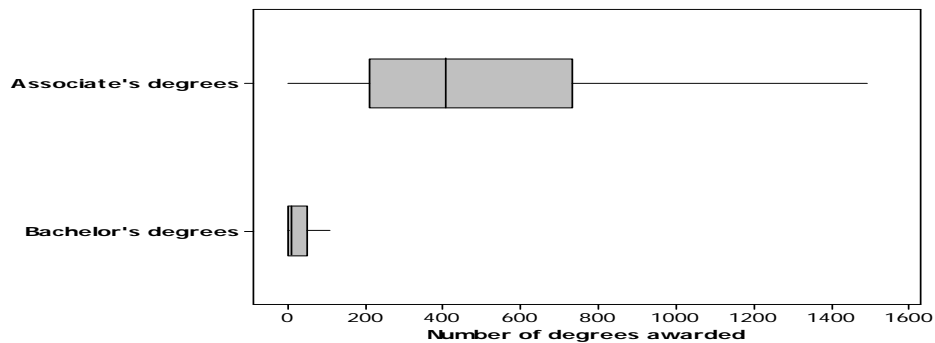


Figure 16. Boxplots Showing Medians for the Number of Associate (n = 1,008) and Bachelor's (n = 51) Degrees Awarded

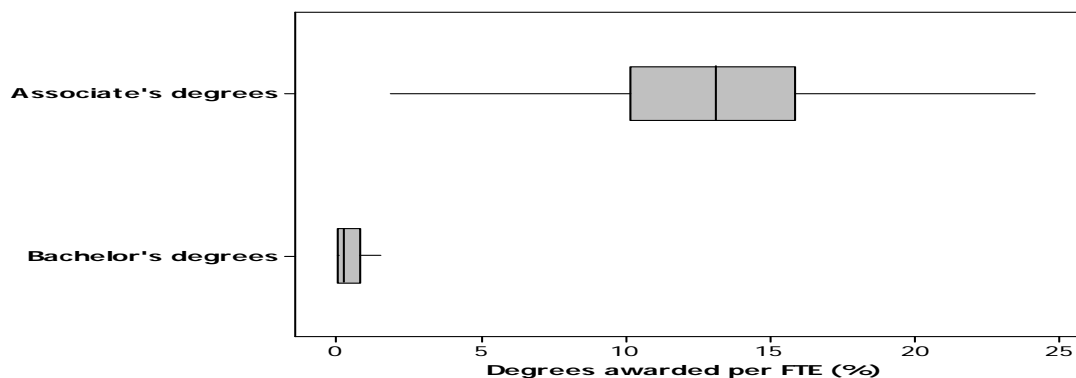


Figure 17. Boxplots Showing Medians for Associate (n = 1,008) and Bachelor's (n = 51) Degrees Awarded per FTE (%)

Objective 4: Relationship between Bachelor's Degrees and Associate Degrees Awarded

In this objective, the aim was to determine if a relationship existed between the initiation of bachelor's degree programs at two-year with bachelor's institutions in the United States and their number of associate degrees awarded, as a percentage of full time equivalent students and total number of associate degrees. In order to address this objective, Pearson product-moment correlation coefficients were calculated between the following variables and the number and FTE percentage of awarded associate degrees awarded: (a) the number of bachelor's degrees awarded

in the subsample of schools that offer bachelor's degrees, and (b) the FTE percentage of bachelor's degrees awarded in the subsample of schools that offer bachelor's degrees.

The transformed data set (Table 6, p 95-96) was used to study this objective. The reason for this choice is that the correlation procedure, which was used to study the relationships between institutional characteristics and the awarding of associate degrees, assumes that the data are normally distributed. However, as seen in Table 6, many of the variables in the raw data had skewed distributions and outliers, when subjected to the Box-Cox transformation to correct for non-normality. In the Box-Cox transformation, an optimal power transformation (lambda) is detected where $W=Y^{*\lambda}$. As the Box-Cox transformation is only available for data that are positive, a constant of 1 is applied to any variable in which zero values are present. Although transformations are useful to correct for non-normality in data, transformed variables are difficult to interpret, as they are no longer on the original scale of the variable. Interpretation of a variable with a negative exponent should be interpreted in the opposite direction if one is inferring relationships back to the original variable (Sakia, 1992).

The correlations among the transformed variables of bachelors and associate degrees awarded are shown in Table 13. In the transformed data set, both the total number of associate degrees and the associate's awarded per FTE were only minimally related, if at all, to the awarding of bachelor's degrees. The interpretation of effect size of correlation coefficients between the variables was "little, if any correlation".

Table 13. Relationships Between the Transformed Variables of the Number and Percent FTE Bachelor's Degrees and Associate Degrees Awarded for Public Community Colleges with Bachelors in the United States

Institutional Characteristic	Statistic	Assoc. (Number)	Assoc. per FTE (%)
Bachelors awarded (Number)	n	48	48
	r	-.191	-.288
	p	<.192	<.047

Table 13 (continued)

Institutional Characteristic	Statistic	Assoc. (Number)	Assoc. per FTE (%)
Bachelors per FTE (%)	Effect size	Little, if any correlation	Little, if any correlation
	n	48	48
	r	-.016	-.206
	p	<.915	<.159
	Effect size	Little, if any correlation	Little, if any correlation

Objective 5: Prediction of Awarding of Associate Degrees from Institutional Characteristics

The transformed data set (Table 6, p 95-96) was used to study this objective. The reason for this choice is that the correlation procedure, which was used to study the relationships between institutional characteristics and the awarding of associate degrees, assumes that the data are normally distributed. However, as seen in Table 6, many of the variables in the raw data had skewed distributions and outliers, when subjected to the Box-Cox transformation to correct for non-normality. In the Box-Cox transformation, an optimal power transformation (lambda) is detected where $W=Y^{**lambda}$. As the Box-Cox transformation is only available for data that are positive, a constant of 1 is applied to any variable in which zero values are present. Although transformations are useful to correct for non-normality in data, transformed variables are difficult to interpret, as they are no longer on the original scale of the variable. Interpretation of a variable with a negative exponent should be interpreted in the opposite direction if one is inferring relationships back to the original variable (Sakia, 1992).

The purpose of this objective was to determine if there is a model that suggests the optimal institutional characteristics to maximize the awarding of associate degrees as a percentage of full time equivalent students. The possible explanatory variables were the institutional characteristics described in objective one. Furthermore, whether the school offered bachelor's degrees or not was included as a possible explanatory variable.

Forward regression analysis was used to address this objective. In this stepwise variable selection procedure variables are sequentially entered into the model. The first variable considered for entry into the equation was the one with the largest positive or negative correlation with the dependent variable. This variable was entered into the equation only if it satisfied the criterion for entry. The criterion for entry was a probability associated with the F statistic of 0.05. Once the first variable is entered, the independent variable not in the equation that has the largest partial correlation is considered next. The procedure stops when there are no variables that meet the entry criterion (SPSS, 2008).

The variables in this study were calculated on differing scales, some as percentages and others representing raw values. To make the un-standardized regression parameters more interpretable, the enrollment numbers were divided by 1,000 and the cost figures were divided by \$10,000. Thus, full-time or part-time enrollment should be considered in thousands, and total core expenses, average salary, and total cost of attendance in ten thousands.

Univariate outliers were already screened for in the creation of the new variables. Multivariate outliers were examined by calculating Mahalanobis distance values. With 13 variables, the Chi-square critical value at $p < .001$ for Mahalanobis distance is 34.53. This resulted in the removal of six cases. To further screen for ill-fitting cases, a first pass of the regression was conducted, standardized residuals were saved, and those with values ± 3.29 were removed. This resulted in a further seven cases being removed from the regression. Thus, there were a total of 940 cases in the final regression model.

The final model had seven variables. The first variable entered was the percent of White students, followed by total core expenses, percent of students receiving federal loan aid, percent of students receiving Pell grants, average salary, full-time enrollment, and part-time enrollment.

The model accounted for 25.9% of the adjusted variance, representing essentially a “large effect size” according to Cohen’s criteria (1988); (Table 4).

The resulting regression equation is shown below. Since the transformations make the raw numbers difficult to interpret, the standardized values are shown. The parameters for the variables in the model at the final step are shown in Table 14. Regression results indicate an overall model of seven predictors (White students, core expenses, percent of students receiving federal loan aid, percent of students receiving Pell grants, average salary, full-time enrollment, and part-time enrollment) that have a significant effect in predicting associate degrees awarded. The final model (Table 15) had an F statistic of 47.783 (df = 7, 931, $p < .001$). This model accounts for 25.9% of the associate degrees awarded for public community colleges in the United States. The combination of variables included in the final multiple regression model represents a “large effect size” per Cohen (1988). The resulting regression equation is shown below; standardized values are shown. Table 14 presents a summary of the regression model.

$$\text{Associate degrees awarded (\%FTE)}_{\text{trans}} = 4.324 + .252(\text{Z-\% White}_{\text{trans}}) - .186(\text{Z-Core expenses}_{\text{trans}}) + .131(\text{Z-\% Loan aid}_{\text{trans}}) - .176(\text{Z-\% Pell grants}_{\text{trans}}) - .074(\text{Z-Average salary}_{\text{trans}}) + .312(\text{Z-FT enrollment}_{\text{trans}}) - .312(\text{Z-PT enrollment}_{\text{trans}})$$

Table 14. Regression Model Summary at Each Step for Transformed Variables

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.412 ^a	.169	.169	.54822	.169	191.082	1	937	<.001
2	.446 ^b	.199	.198	.53853	.030	35.026	1	936	<.001
3	.468 ^c	.219	.217	.53216	.020	23.544	1	935	<.001
4	.482 ^d	.232	.229	.52789	.013	16.184	1	934	<.001
5	.487 ^e	.237	.233	.52660	.005	5.576	1	933	<.018
6	.494 ^f	.244	.239	.52454	.007	8.363	1	932	<.004
7	.514 ^g	.264	.259	.51761	.021	26.126	1	931	<.001

a. Predictors: (Constant), White (%)

- b. Predictors: (Constant), White (%), Total core expenses (\$)
- c. Predictors: (Constant), White (%) Total core expenses (\$), Loan aid (%)
- d. Predictors: (Constant), White (%) Total core expenses (\$), Loan aid (%), Pell grants (%)
- e. Predictors: (Constant), White (%) Total core expenses (\$), Loan aid (%), Pell grants (%), Average salary (\$)
- f. Predictors: (Constant), White (%) Total core expenses (\$), Loan aid (%), Pell grants (%), Average salary (\$), Full time enrollment
- g. Predictors: (Constant), White (%) Total core expenses (\$), Loan aid (%), Pell grants (%), Average salary (\$), Full time enrollment, Part time enrollment
- h. Dependent Variable: Associate degrees per FTE (%)

Table 15. ANOVA Table of the Final Regression Model, for Transformed Variables

Model		Sum of Squares	df	Mean Square	F	Sig.
7	Regression	89.613	7	12.802	47.783	<.001 ^g
	Residual	249.431	931	.268		
	Total	339.044	938			

The transformed values for core expenses were subjected to a negative exponent transformation and thus should be interpreted in the opposite direction than shown when considering the original values. The signs were in the positive direction for percent of enrolled students that were White, core expenses (if considering the original values), percent of students receiving federal loan aid, and full-time enrollment, indicating that these variables were associated with higher percentages of associate degrees per FTE. The percent of students receiving Pell grants, the average salary of staff, and part-time enrollment were negative, and thus associated with fewer associate degrees awarded per FTE.

Thus, the coefficients were positive for the percentage of white students, core expenses, loan aid, and full-time enrollment, indicating that higher values of these variables were associated with a greater percentage of associate degrees awarded per FTE. Negative coefficients were seen for the Pell grants, average salary, and part-time enrollment, indicating

that higher values of these variables were associated with fewer associate degrees awarded per FTE (Table 16).

Multicollinearity statistics are also shown in Table 16. Tolerance indicates the percent of variance in the predictor that cannot be accounted for by the other predictors. Very small values (e.g., $< .10$) indicate that a predictor may be redundant. Variance inflation factors (VIF, $1/\text{tolerance}$) are the inverse of tolerance statistics, and VIF values over 5 to 10 may merit further investigation (SPSS, 2008). As seen in Table 16, tolerance and VIF values were within acceptable limits and thus, there were no indications of significant multicollinearity in these data.

The indexes of multicollinearity (Table 16) were all within acceptable limits, although the values for part-time enrollment were approaching levels of concern. As part-time enrollment is highly correlated with full-time enrollment, it may be that only one of these values or a combination (e.g., full-time *equivalent* enrollment) would be a more ideal predictor.

Table 16. Regression Model Parameters at the Final Step for Transformed Variables

Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error	Beta				Zero-order	Partial	Part	Tolerance	VIF
(Constant)	4.324	.495			8.728	<.00					
White (%)	.003	.000	.252	6.897	<.00		.412	.220	.194	.590	1.694
Total core expenses (\$)	-84.443	14.438	-.186	-5.849	<.00		-.206	-.188	-.164	.784	1.275
Loan aid (%)	.058	.015	.131	3.926	<.00		.330	.128	.110	.713	1.403
Pell grants (%)	-.007	.001	-.176	-5.283	<.00		-.113	-.171	-.149	.712	1.405
Average salary (\$)	-.060	.031	-.074	-1.954	<.051		-.142	-.064	-.055	.547	1.830
Full time enrollment	1.023	.177	.312	5.771	<.00		-.050	.186	.162	.270	3.701

Table 16 (continued)

	Unstandardized Coefficients		Standardized Coefficients			Correlations			Collinearity Statistics	
Model	B	Std. Error	Beta	t	Sig.	Zero-order	Partial	Part	Tolerance	VIF
Part time enrollment	-.431	.084	-.312	-5.111	<.00	-.206	-.165	-.144	.212	4.716

a. Dependent Variable: Associates per FTE (%)

The histogram of the standardized residuals from the regression is displayed in Figure 18.

The data followed a normal distributional pattern, indicating good adherence to this assumption of linear regression.

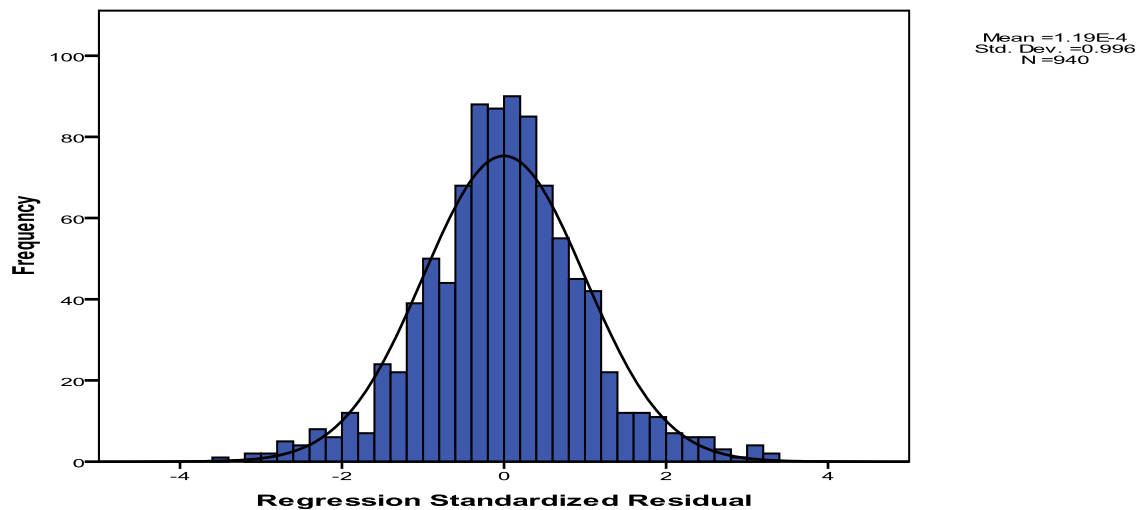


Figure 18. Standardized Residuals from Linear Regression of Transformed Data

The standardized residuals versus predicted values are shown in Figure 19.

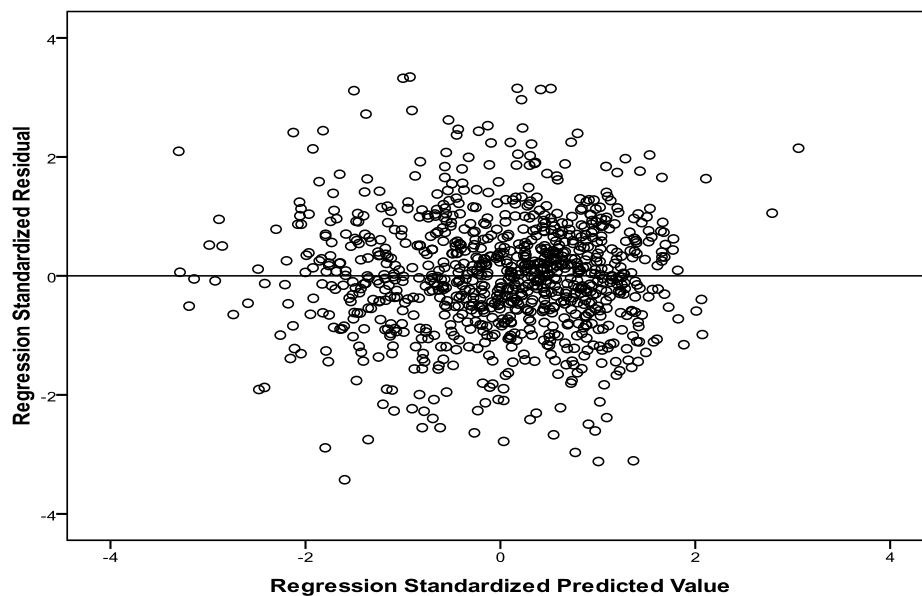


Figure 19. Scatterplot of Regression Standardized Residuals against Standardized Predicted Values from Linear Regression of Transformed Data

Linearity in the scatterplot is indicated by even numbers of values above and below zero across the range of possible values, without any apparent “curvature” in the graph. The points appeared randomly distributed above and below zero, with no apparent patterns of increasing/decreasing values. Heteroscedasticity would be indicated by varying dispersion of the residuals at different predicted values. For example, the residuals could become more widely dispersed as the fitted value increased. This does not appear to be the case in this analysis. Thus, the assumptions of linearity and homoscedasticity appeared validated for this analysis.

CHAPTER 5: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Purpose and Specific Objectives

The purpose of this study was to determine the relationship between the initiation of bachelor's degree programs at public community colleges in the United States, as defined by the Integrated Postsecondary Education Data System (IPEDS), and their level of performance in granting associate degrees. The dependent variable for this study was the total number of associate degrees awarded and the number of associate degrees awarded as a percentage of fulltime equivalent students.

This study used the following objectives to guide the research:

1. Describe the institutional characteristics for public community colleges in the United States, including:
 - Full-time 2009-2010 fall enrollment
 - Full-time equivalent 2009-2010 fall enrollment
 - Part-time 2009-2010 fall enrollment
 - Total Core Expenses per FTE Student
 - Instructional expenses as a percent of total core expenses
 - Average salary equated to 9 month contracts of full time instructional staff
 - Total price for in-state students living off campus not with family
 - Percentage of undergraduate students receiving federal, state, local, institutional aid
 - Percentage of undergraduate students receiving Pell grants
 - Percentage of undergraduate students receiving Federal student loans
 - Percentage of Total Enrollment White Non-Hispanic

- Percentage of Total Enrollment African American Non-Hispanic
 - Percentage of Total Enrollment Hispanic
 - The dependent variable of the total number of associate degrees awarded and the number of associate degrees awarded as a percentage of fulltime equivalent students.
2. Determine if a relationship exists between the above institutional characteristics and the number of associate degrees awarded, as a percentage of full time equivalent students and total number of associate degrees awarded.
 3. Describe associate degrees awarded as a percentage of FTE enrolled, bachelor degrees awarded as a percentage of FTE students, and total number of degrees for each, for public community colleges in the United States.
 4. Determine if a relationship exists between the initiation of bachelors degree programs at two-year with bachelor's institutions in the United States and the number of associate degrees awarded, as a percentage of full time equivalent students and total number of associate degrees.
 5. Determine if there is a model that suggests the optimal institutional characteristics to maximize the awarding of associate degrees as a percentage of full time equivalent students. This study will use the potential explanatory variables listed in objective one and the dependent and independent variables listed in objective three (degrees awarded by community colleges).

Population

This study defines its target population as public two-year institutions located within the United States. Relevant data for this entire population is accessible via the Integrated

Postsecondary Education Data System (IPEDS). This study identified 1024 institutions that met these criteria.

Methodology

Based on the review of relevant literature, this study selected specific dependent and independent variables, using a data-retrieval collection form, from data reported to the Integrated Postsecondary Education Data System (IPEDS) for the study's independent and dependent variables (Appendix B). Specifically, this study queried information for the academic year 2009-2010 for all public community colleges located in the United States (U.S. Department of Education, 2012). Appendix B shows the form and related instruments.

Permission to complete this study was received from Louisiana State University's Institutional Review Board (Appendix C).

Objectives 1 and 3, after identifying variables that report institutional characteristics for the target population, used descriptive statistics to reveal the count, maximum, minimum, mean, standard deviation, skewness, and number of outliers. This information is required in determining if a study needs to address missing data, outliers, normality, and linearity issues for its variables before performing a multiple regression analysis (Tabachnick & Fidell, 2007, p. 117).

Objectives 2 and 4 sought to determine relationships between the independent variables in the study and the dependent variable, number of associate degrees awarded. Pearson product moment correlation coefficient was used to measure the relationships and to evaluate the effect size of each relationship. The correlation procedure determines the relationship between two variables, but mere correlation does not imply causation. Ideally, evidence is required from the related literature to support an argument of causation (Aldrich, 1995).

Objective five sought to create a regression model that would indicate the variables and additional institutional characteristics that would maximize the number of associate degrees for the target population. This study also evaluated the effect size for the resulting model.

Summary of Major Findings

Objective 1

The goal of this study objective was to describe the institutional characteristics for public community colleges in the United States as they pertain to the selected characteristics of this study, and the dependent variables of the total number of associate degrees awarded and the number of associate degrees awarded as a percentage of fulltime equivalent students. The descriptive statistics for these variables are shown in Table 7. The number of values, mean, standard deviation, and minimum and maximum observed values are listed. The median is also shown to provide additional information on the distributions. Furthermore, histograms showing the distribution of each variable are shown in Figures 2 to 11.

The mean full time enrollment was almost 3,000 students (2,987.53), with a range from 0 to over 22,000 students. The median number of students was close to 2,000 (2,159.50) indicating positive skewness of the variable. This is depicted in Figure 2. The bulk of the distribution was contained within the range of 0 to 12,000 students, with a few outliers beyond this point.

The dependent variables in this study were the number of associate degrees awarded in total, and as a percentage of FTE. The average number of associate degrees awarded was 588.79, with a range of 0 to 9,090. The median number was 406.00 degrees awarded. The vast majority of schools had less than 2,500 associate degrees awarded. The average number of

associate degrees per FTE was 13.42%, with a range of 0% to 110.71%. The median and quartile values indicated significant positive skew. The majority of values fell below 30%.

Objective 2

The goal of this objective was to study the relationships between institutional characteristics and the awarding of associate degrees. The transformed data set (Table 6, p 95-96) was used to study this objective. The Pearson product-moment correlation procedure was used to evaluate the relationships between the characteristics of the institutions and the total number of associate degrees awarded and the number of associate degrees awarded as a percentage of fulltime equivalent students. The results of the correlation analyses and the effect size interpretations are presented in Tables 8-11.

For the number of associate degrees awarded, full-time and part time enrollments were highly correlated. Salary showed a low positive correlation. Any grant aid, Pell grants, and percentage of Hispanic students were all negatively related to the total number of degrees awarded. However, the transformation for the percentage of Hispanic students was inverse, and thus the relationship with this variable should be interpreted in the positive direction. Small correlations (lower than $\pm .30$) were observed between the remainder of the institutional characteristics and the number of associate degrees awarded. For the associate degrees awarded as a percentage of the FTE enrollment, all the correlations were in the interpretive range of “little, if any correlation”.

Objective 3

The goal of this study objective was to describe associate degrees awarded as a percentage of FTE enrolled, bachelor degrees awarded as a percentage of FTE students, and total number of degrees for each, for community colleges in the United States.

The average number of associate degrees awarded was 588.79, although the distribution was significantly positively skewed. Seventy-five percent of the schools had less than 732 associate degrees awarded. The number of associate degrees awarded as a percentage of FTE averaged 13.42%, with a range of 0% to 110.71%. This variable was also significantly positively skewed, and the 75th percentile was 15.84%.

Of the 1024 schools in the sample, only 51 offered bachelor's degrees (5.0%). In these 51 schools, the mean number of bachelor's degrees awarded was 35.04, with a range of 0 to 264 and a median of the average number of bachelor's degrees awarded as a percentage of FTE students was 0.81%, with a range of 0 to 8.73%. The majority of schools awarded bachelor's degrees per FTE at a rate lower than 1.0% (Figure 15).

A comparison of the number and FTE percentage of associate and bachelor's degrees awarded is provided graphically in Figures 16 and 17. Significantly, more associate than bachelor's degrees were awarded, both in terms of absolute number of degrees and the FTE percentage of degrees awarded.

Objective 4

The aim of this objective was to determine if a relationship existed between the initiation of bachelor's degree programs at two-year with bachelor's institutions in the United States and their number of associate degrees awarded, as a percentage of full time equivalent students and total number of associate degrees. In order to address this objective, Pearson product-moment correlation coefficients were calculated between the following variables and the number / FTE percentage of awarded associate degrees: (a) the offering of bachelor's degrees (point-biserial correlation coefficient) in the entire sample, (b) the number of bachelor's degrees awarded in the

subsample of schools that offer such degrees, and (c) the FTE percentage of bachelor's degrees in the subsample of schools that offer such degrees.

In the full sample, there was a small but significant correlation between the number of associate degrees awarded and whether a bachelor's degree was offered. The offering of bachelor's degrees was dichotomously coded (1 = yes, 0 = no). Thus, the correlation was positive – schools that offered bachelor's degrees tended to have higher number of associate degrees awarded. In the subsample of schools that offered bachelor's degrees, there was a moderate positive correlation between the number of bachelor and associate degrees awarded. The relationship between the number of associate degrees awarded and bachelor's as a percentage of FTE was small and insignificant. Associate degrees awarded per FTE were very minimally related to all three variables pertaining to the awarding of bachelor's degrees.

Since the transformations involving the total number of bachelor's degrees and bachelor's degrees per FTE involved negative exponents, the relationships with these variables should be considered in the opposite direction for the raw data. In the transformed data set, both the total number of associate degrees and the associate's awarded per FTE were only minimally related, if at all, to the variables involving the awarding of bachelor's degrees.

Objective 5

The purpose of this objective was to determine if there is a model that suggests the optimal institutional characteristics to maximize the awarding of associate degrees as a percentage of full time equivalent students. The possible explanatory variables were the twelve institutional characteristics described in objective one. Furthermore, whether the school offered bachelor's degrees or not was included as a possible explanatory variable.

Forward regression analysis was used to address this objective. Variables are sequentially entered into the model in this stepwise variable selection procedure. The first variable considered for entry into the equation is the one with the largest positive or negative correlation with the dependent variable. This variable is entered into the equation only if it satisfies the criterion for entry. The criterion for entry was a probability associated with the F statistic of 0.05. Once the first variable is entered, the independent variable not in the equation that has the largest partial correlation is considered next. The procedure stops when there are no variables that meet the entry criterion (SPSS, 2008).

In the transformed data, univariate outliers were already screened for in the creation of the new variables. Multivariate outliers were examined by calculating Mahalanobis distance values. With 13 variables, the Chi-square critical value at $p < .001$ for Mahalanobis distance is 34.53. This resulted in the removal of six cases. To further screen for ill-fitting cases, a first pass of the regression was conducted, standardized residuals were saved, and those with values ± 3.29 were removed. This resulted in a further seven cases being removed from the regression. Thus, there were a total of 940 cases in the final regression model.

Regression results indicated an overall model of seven predictors (White students, core expenses, percent of students receiving federal loan aid, percent of students receiving Pell grants, average salary, full-time enrollment, and part-time enrollment) that have a significant effect in predicting associate degrees awarded. The final model had an F statistic of 47.783 ($df = 7, 931$, $p < .001$). This model accounted for 25.9% of the associate degrees awarded for public community colleges in the United States. The combination of variables included in the final multiple regression model represented a “large effect size” per Cohen (1988).

The final model had seven variables (Tables 14-16). The first variable entered was the percent of White students, followed by total core expenses, percent of students receiving federal loan aid, percent receiving Pell grants, average salary, full-time enrollment, and part-time enrollment. The model accounted for 25.9% of the adjusted variance, representing essentially a large effect size according to the Cohen criteria. In comparison to the regression with the raw data, the transformed regression equation accounted for almost double the variance in the dependent variable.

The transformed values for core expenses were subjected to a negative exponent transformation and thus should be interpreted in the opposite direction than shown when considering the original values. The signs were in the positive direction for percent of enrolled students that were White, core expenses (if considering the original values), percent of students receiving federal loan aid, and full-time enrollment, indicating that these variables were associated with higher percentages of associate degrees per FTE. The percent of students receiving Pell grants, the average salary of staff, and part-time enrollment were negative, and thus associated with fewer associate degrees per FTE awarded.

Conclusions, Implications, and Recommendations

Conclusion 1

Public community colleges in the United States are accomplishing their mission of preparing students for the two-year associate degree, with degree completion/award showing an increasing trend. Public community colleges that began to offer, over the last ten years, a four-year baccalaureate degree to meet higher education needs, in addition to the traditional two-year associate degree, are accomplishing this dual mission effectively.

This conclusion is supported by the findings of this study and facts in the published literature.

The study findings indicate that the mean number of associate degrees awarded by 1008 public community colleges in the United States in the fall of 2009- 2010 was 588.9, the fall full-time mean enrollment was 2,987.53, and the fall part-time mean enrollment was 4,383.58. A related finding of the study was the very high correlation between fall full-time enrollment ($r=.902$, $p<.001$) and the number of associate degrees awarded, and a high correlation between fall part-time enrollment ($r=.801$, $p<.001$) and the number of associate degrees awarded. These findings suggest that the spike in higher education enrollments in 2007 and 2008 as reported by the Pew Research Center (2009) could augur corresponding increases in the award of associate degrees at community colleges for the near future, particularly in the continuing financial downturn in the economy that is being experienced by the country.

In keeping with these positive trends in enrollment and award of associate degrees at public community colleges, the study showed that at community colleges which began offering bachelor's degrees ($n=51$) in the last ten years, the mean number of bachelor's degrees awarded in the fall of 2009-2010 was 35.04. Furthermore, the study showed that that the correlation coefficient between the mean number of associate degrees awarded and the mean number of bachelor's degrees awarded at these same community colleges was negative and non-significant ($r=-.191$, $p <.192$), which would suggest that both types of degrees were in demand to serve the needs of students.

The conclusion that can be drawn from the above findings is that traditional public community colleges and public community colleges with bachelors are fulfilling their respective roles in an effective manner. Published literature on public community colleges in the United States corroborates the positive trends with regard to enrollment, performance, and award of associate degrees at these institutions.

In terms of overall higher education, the current proportion of 18 to 24-year-olds in college in the United States is reported to be at its highest level. These increases were fed by the financial downturn that drove a rise in community college enrollments, according to a Pew Research analysis of U.S. Census Bureau information. At two and four-year colleges nearly 113 million, or 39.6% of 18 to 24-year olds, were enrolled (Pew Research Center, 2009).

Enrollments had already been increasing for a long period of time at two- and four-year schools; however the above spike occurred only at community colleges. As of October 2007, approximately 3.1 million individuals, 10.9% of 18- to 24- year-olds, were community college students. The next year, that number had risen to 3.4 million college students, or 11.8% of 18- to 24-year-olds. In contrast, enrollments at four-year schools were flat from 2007 to 2008 (Pew Research Center, 2009).

This new peak in higher education enrollment occurred in the midst of the economic downturn that has pushed nationwide unemployment to the greatest level in 25 years, and it has had a particularly severe effect on young people. A smaller sized share of 16- to 24-year-olds, 46.1%, was working in September 2009 based on the Bureau of Labor Statistics, than at any time since the federal government started gathering this kind of information in 1948 (Pew Research Center, 2009).

Enrollments at community colleges are regarded as relatively countercyclical, in that they have a tendency to increase as the economic climate worsens. One cause of this is the fact that community colleges are cheaper than four-year schools - they typically cost \$6,750 each year in contrast with \$9,800 for four-year public universities and \$21,240 for four-year private schools (Pew Research Center, 2009).

Regardless of the higher cost of four-year colleges, their enrollments have not dropped throughout the current economic downturn. Instead, they have held even - and have achieved this in spite of tuition growth of 4.9% for each year, over inflation, from 1999-2010 for public four-year schools (Pew Research Center, 2009).

Modifications within the labor marketplace and the general economic climate are not the sole elements that affect school enrollment. An additional essential aspect is how many individuals complete high school. With this as well, Census Bureau information indicates that a new high has been reached. Based on census figures, 84.9% of 18- to 24-year-olds, a record, had finished high school by October 2008, up from 75.5% in 1967 and 83.9% in 2007. Correspondingly, the number of high school dropouts is at a record low - 9.3% in 2008, lower than half the dropout number (19.8%) in 1967, and down from 10.2% in 2007 (Pew Research Center, 2009).

This dramatic increase in community college enrollment speaks directly to the need to expand the capacity of higher education, with the community college bachelor's directly addressing this enhanced demand. With dramatic enrollment growth, many four-year schools are at capacity. In California and other states, students are being turned away for lack of space. This problem is being driven, in particular, by the recent dramatic growth in enrollment in the recent recession years.

If this enrollment demand can be met within the framework, infrastructure, and academic capacity of existing higher education institutions, including community colleges, why should it not be accommodated? The community college bachelor's is, in this sense, a means of meeting very real societal and demographic needs. If only based on higher education demand, the

numbers of students seeking degrees, the community college bachelor's may make sense as a competitive, market driven response to marketplace need.

Conclusion 2

There is little or no relationship between the institutional characteristics of public community colleges offering the baccalaureate degree and the awarding of associate degrees by these colleges.

This conclusion is borne out by the study finding that only two institutional characteristics, fulltime fall 2009-2010 enrollment and part-time fall 2009-2010 enrollment, were very highly correlated ($r=.902$, $p<.001$) and highly correlated ($r=.801$, $p<.001$), respectively, interpreted as effect size, with the number of associate degrees awarded. None of the remaining ten institutional characteristics grouped under three other themes - institutional expenses, student expenses, and student demographics - were correlated with the award of associate degrees, i.e., number of degrees or percentage of student FTE.

Perhaps geographic location is the primary institutional characteristics of public community colleges offering bachelor's degrees. This is so because of the state-based political nature of the decision to allow community colleges to award bachelor's degrees. Hence, most community colleges offer bachelor's degrees in Florida, but no community colleges offer them in California.

Most of the literature focuses on the characteristics of the students at community colleges rather than the institutional characteristics of these schools. In comparison to four-year university students, individuals at community colleges are more likely to be low-income, first-generation college students, born in another country and minority, especially Hispanic. The

functions and mission of community colleges explain this composition of their student body (Bailey, 2012).

The programs and structure of community colleges fluctuate significantly around the country depending on the needs of the localities that the community college serves. Community colleges come in a lot of shapes and sizes, from small outlying colleges to large urban ones. Most individuals who live in the United States have a community college, campus branch, or educational center near their homes, and they often use their particular community college when they have instructional needs. Low tuition, proximity, open-door admissions policies, schedules that are flexible, along with specialized student and academic solutions all describe the reasons why community colleges have provided the educational entry point to so many students (American Association of Community Colleges, 2012).

Conclusion 3

There are very few inter-relationships between the institutional characteristics of public community colleges.

This conclusion is supported by the study finding that the only interrelated institutional characteristics, as revealed by the effect sizes of the correlation coefficients, were part-time student fall 2009-2010 enrollment and average salary of instructional staff ($r=.516$, $p<.001$, moderate correlation) and part-time student fall 2009-2010 enrollment and percentage of Hispanic enrollment ($r=-.516$, $p<.001$, moderate correlation). None of the other bivariate interrelationships among institutional characteristics had a large enough effect size to merit consideration.

Community college students often switch between full-time and part-time enrollment. This differs from four-year schools where more start and continue full-time. This flip-flopping

has made it difficult to study the “part-time” student, which is reflected in the limited related literature.

However, a recent study indicates that students who attend college part-time are less likely to graduate. Even when given two times as long to complete their degree, at most one-quarter of part-time students graduate. Many students need to work, and are working more hours than previously. In addition, many can only afford to go part-time, extending the time until they graduate. As time passes, student lives fill up with work opportunities, marriage, children, mortgages, and other responsibilities. Unsurprisingly, school can be put aside (Complete College America, 2011).

Conclusion 4

Student financial assistance in the form of grant aid and Pell grants appears to have a negative influence on the award of associate degrees at public community colleges.

This conclusion is supported by the finding that grant aid and Pell grants to students were negatively correlated with the number of associate degrees awarded ($r = -.384$, $p < .001$, and $r = -.326$, $p < .001$). The implication of this finding could be that while financial assistance is important for students to maintain themselves during their college stay, other factors such as academic readiness and achievement may be more critical to completing a degree.

This outcome is comparable to other studies that indicate that the quantity of monetary help provided to Louisiana community college students via Pell Grants along with other aid did not have a substantial effect on their educational achievement. The American Institutes for Research (AIR) carried out this research for the Board of Regents of the State of Louisiana. This research found that educational preparation is really a more powerful predictor of achievement than monetary help. Additionally, it confirmed that the more developmental programs a college

student requires, the less likely they are to be successful (American Institutes for Research, 2012).

The AIR research examined whether or not monetary help affects student retention. In addition, it studied when this kind of financial help can be utilized more effectively to boost pupil achievement without escalating the price of aid programs.

Pell Grants were targeted by the AIR study's researchers who focused on full-time community college students. Completion was calculated by whether or not a pupil attained a certificate or an associate diploma within 3 years after enrolling full time for the first time, or when they transferred to a Louisiana four-year college inside of the same timeframe (American Institutes for Research, 2012).

The AIR research indicated that 28 percent of all college students who did not enroll in any developmental programs succeeded in earning a diploma or transferring to a four-year college. In contrast, even one developmental training program reduced pupil achievement rates by fifty percent, irrespective of whether or not they obtained Pell grants (American Institutes for Research, 2012).

Additional findings of the AIR study include:

1. In terms of success rates, Pell Grants did not outweigh educational preparation in relation to achievement rates across income ranges amongst college students. College students with Pell grants succeeded at decreased levels.
2. Increasing monetary aid to Louisiana community college students did not significantly improve their education achievement.

3. Students who do not need developmental programs tend to be more likely to finish a degree or transfer to a four-year college than college students who require one or more developmental course.

Consequently, the results of this study and the AIR report tend to indicate that focusing monetary aid to boost the achievement of community college students may be less likely to be successful in terms of completion rates (American Institutes for Research, 2012).

Dowd and Coury (2006) utilized information on community college students extracted from the Nationwide Postsecondary Study Aid Study (1989-1990) and also the beginning Postsecondary Follow-Up Surveys (1999-1994) to measure year 1 to year 2 persistence ranges and attainment of certification or associate degrees. The authors, to get prediction coefficients for numerous independent variables, such as gender, ethnicity and enrollment designs, utilized logistic regression, and the kinds of economic aid obtained (Dowd & Coury, 2006).

Comparable to information outlined in Table 10 of this study, the Dowd and Coury research supplied evidence that for community college students, loans, independently as well as in conjunction with need-based grants and work-study, had a negative effect on persistence and certification or diploma completion. Their results also indicated that minorities and college students with educational preparation deficiencies had been averse to borrowing. Based on the work of Dowd and Coury, community college students, individual and/or family member's monetary standing, and educational performance are powerful predictors of persistence and certificate or diploma attainment (Dowd & Coury, 2006).

Conclusion 5

While the number of community colleges with bachelor's degrees has grown over the past ten years, it is still the exception rather than the rule.

This conclusion is based on the statistic that only 54 of the 1024 (5.0%) public community colleges in the United States in 2010 had begun to offer or were offering bachelor's degrees in addition to the traditional associate degrees. It could be said that the community college remains a restricted or minority phenomenon. Significant opposition to the move and controversy about its value remain.

Community college bachelor's programs are often the choice of final resort after other options have been exhausted. These programs currently have significant variation amongst the states in how they have been implemented, because of various demographics, workforce requirements, higher education systems, fiscal circumstances, and political pushback against the idea. Florida is in the forefront of this forward motion. Other states are creating more restricted utilization (Russell, 2010).

Not every state is leaping onto the community college baccalaureate bandwagon. Some states, following many years of debate and discussion, rejected proposals to permit their community colleges to apply for four-year degrees. An additional aspect keeping back the community college bachelors are laws restricting them to applied and technical baccalaureate degrees, like the Bachelor of Applied Science (B.A.S.), Bachelor of Applied Technology (B.A.T.) and Bachelor of Technology (B.T.) degrees. The rationale is the contention that these represent extensions of technical degrees currently provided at community colleges and therefore are created to permit Associate Applied Science (A.A.S.) graduates to add to their training; while four-year schools possess a shorter (or no) background with these kinds of degrees.

Numerous four-year university leaders are vehemently against community colleges providing 4-year degrees. In particular, in the related conflicts arising in Michigan, 15 of that state's public universities are against providing community colleges the right to issue bachelor's

degrees. Based on these college leaders, community colleges are trying to over-step their boundaries and missions, and they ought to offer post-high school training and vocational education. They believe that it should be the function of universities to offer bachelor's degrees.

These four-year university leaders are worried that community colleges are threatening their enrollment, which could decrease their tuition income. In addition to genuine competition, four-year university leaders might also be frightened off by declining monetary assistance from their states. In Michigan's situation, college budgets took severe cuts. If community colleges are added to four-year colleges in offering bachelor's degrees, then these four-year university leaders could encounter even higher spending budget setbacks, since the funding for bachelor's degrees would be further divided (Grace, 2009).

Empowerment of community colleges, with regard to offering community college baccalaureate degrees, is moving deliberately. It is done on a state-by-state basis and there have been numerous roadblocks. From issues about mission confusion to accreditation problems, to greater expenses, to the duplication of effort, and to a number of other issues detailed within this research report, baccalaureates at community colleges are on a sluggish move forward. Nevertheless, they seem driven forward, in part, by marketplace demand, with some community colleges responding to this demand by getting approval to offer bachelor's degrees.

Conclusion 6

An enhanced higher education marketplace where selected community colleges will compete and evolve to offer bachelor's degrees while simultaneously continuing their traditional associate degree granting role is visualized.

This conclusion is based on the study's finding that the total number of associate degrees awarded and the associate degrees awarded per FTE were only minimally related, if at all, to the variables involving the awarding of bachelor's degrees (number and percent of FTE).

The implication of this conclusion is that community colleges awarding bachelor's degrees have not diminished the number of associate degrees they award as a result of this change. It would appear, therefore, that community colleges offering bachelor's degrees may have developed into hybrid institutions by supplying a number of occupationally prepared bachelor's degrees while retaining community college ideals, thereby creating more diversity within higher education as a significant outcome. Indeed, greater diversity within a system, like higher education, is essential for its survival. This is so because one particular kind of higher education institution cannot meet the requirements of all pupils. Competition results in excellence. Variations in institutions facilitate selection and lead to opportunities. Community colleges that offer bachelor's degrees seem to have achieved this state by ably competing.

On the other hand, a decline in the awarding of associate degrees by community colleges that offer bachelor's degrees, when compared to community colleges that do not offer bachelor's degrees, would have been an indicator of homogeneity. This study determined that this decline is not occurring. As a result, this study seems to indicate that community colleges can supply bachelor's degrees while continuing their historical associate degree-granting mission.

Public institutions at all levels - state systems, universities, and community colleges - are dealing with remarkable problems: increasing expenses, inadequate numbers of degrees granted, value shopping by those they serve, constant complaints by businesses about graduates with inadequate abilities, constrained financial flexibility, and elected officials questioning spending and demanding higher accountability, productivity, and outcomes. With the budgets for higher

education under this kind of enhanced scrutiny and undergoing ongoing funding cuts, many legislators and higher education administrators are convinced that they have come up with a way to provide the needed numbers of bachelor's degrees at minimal additional cost. Their solution has been to pass legislation allowing their state's existing community colleges to offer bachelor's degrees.

With this avenue in mind, legislators looked around for what they believe to be the most cost-effective means of generating these degrees and ended up focusing on the idea of allowing their existing community colleges to offer bachelor's degrees. They perceived this to be an inexpensive way to achieve an important need - more bachelor's degrees.

The study indicates that, in terms of number of associate degrees awarded, this legislative initiative has been a seemingly successful change within higher education. The study takes a step forward in determining that community colleges may be able to continue to perform their historical role as community colleges as they also offer bachelor's degrees, continuing their traditional associate degree granting and related roles.

The implication of this conclusion and the supportive findings is that the pursuit and award of associate and bachelor's degree are not and need not be mutually exclusive. The one is conducive to the other. A remarkably successful synergy of hybridization is being established at community colleges offering bachelors, with community college ideals retained and greater diversity created within the higher education marketplace. The literature supports this conclusion and its implications, and suggests actions that should be taken to enhance the higher education system in the United States.

As indicated by Rhoades and Slaughter (1997, p. 9)), "...The political-economic context of higher education whether global, regional, national, or local - is changing. So, too, the

organizational sites, terms of academic employment, and nature of the professional workforce in higher education are being restratified, restructured, and reconfigured. In the process, the content of work in the academy - of curriculum development, research, and service - is shifting and being redefined. We characterize these trends as the emergence and growth of academic capitalism, of increasingly managed professionals, and of supply-side higher education focused on economic competitiveness."

This development potentially opens up a whole raft of possible additional benefits that may be offered by community college with bachelor's schools. A number of individuals feel that the community college baccalaureate is an excellent method of addressing unmet labor market demands (Walker & Floyd, 2005). Applied baccalaureate degrees supply a path for non-traditional college students to a bachelor's diploma and they help state and local governments in addressing shortages within the labor force. Typically, applied degrees awarded by community colleges, for example the Associate of Applied Science Degree, have become the standard within certain technical fields (Russell, 2010). The rationale for the community college baccalaureate, put simply, is "access"- physical, programmatic, and financial.

America's community colleges enroll almost 50 percent of the undergraduates in higher education. Place-bound students are restricted by inadequate geographic access to universities and by household and family obligations that do not allow them to complete classes on the traditional campus. Community colleges are accessible geographically, supply open admissions, and are inexpensive. As demands for baccalaureate degrees increase, the majority of the nation's population is within driving distance of a community college and, as an outcome, these "people's colleges" are invaluable for their availability to individuals who are place bound (Floyd & Walker, 2009). Permitting community colleges to award bachelor's degrees is demographically

reasonable. In some states, demand exceeds capacity at four-year schools. Offering selected bachelor's degrees at community colleges may help reduce overcrowding and address workforce needs (Lewin, 2009).

Ethnic groups are more likely to reenroll at a community college versus a four-year public university. Thus, it seems reasonable, that these students would be receptive to these institutions extending their curriculum to include bachelor degree offerings. Community colleges have typically been more pleasant and supportive places for minority students. That is especially important as states attempt to encourage more minorities to be teachers (Mills, 2003).

Use of community colleges makes good sense for citizens; based on their per- student tax, funding is lower. The funding differs by state, but a recently documented figure for per capita cost at public community colleges is \$9,183 per college student. When compared to \$27,973 for each four-year university student, the very low cost supports the idea that community colleges make sense from the taxpayer's perspective (Mellow, 2008). In specific states, as an example Florida, community college junior and senior level baccalaureate programs are funded at a reduced per student price than equivalent university baccalaureate programs (Floyd & Walker, 2009).

Supporters of the community college baccalaureate move believe that it is a reaction to the unmet need for bachelor's degrees, which they also see in the trend of corporate colleges or similar service designs. Walker (2000) indicates that between 1988 and 2000, the number of corporate colleges increased from 400 to more than 1,000. Walker also points out that more corporations are creating their own schools or are requesting for-profit universities to educate their personnel mainly because traditional universities are thought to be too slow to respond to corporate needs (Walker, 2000).

The nation's community colleges are an inexpensive place of entry for the pursuit of four-year degrees for almost seven million college students every year, many of whom are low- or moderate-income (American Association of Community College, 2012). Consequently, community colleges perform a crucial function in attainment of bachelor's degrees for the most economically susceptible college students.

Furthermore, the nation's international competitiveness depends upon the speed of bachelor's degree attainment by graduates of our high schools (Slaughter & Leslie, 1997). The worldwide economic climate is changing rapidly as other nations with quickly evolving economies have elevated their stature, and now show the possibility of bypassing the United States in relation to research, innovation, achievement, and development (Organization for Economic Co-operation and Development, 2012).

The congressionally mandated 2005 report "Gathering Storm: Energizing and Employing America for a Brighter Future" established that the United States is dropping its foothold within the international economic climate for many reasons, including low academic attainment, and recommended speedy action (The National Academies, 2005). In addition, the World Economic Forum, in 2007, indicated that the United States rated fifth, worldwide, in the "Higher Education Training" category (World Economic Forum, 2007).

For the nation's economy and for its capability to compete within the international economic climate, actions should be taken to boost bachelor's degrees. As community college students make up roughly 50 percent of undergraduate college students in the United States, an effective pathway from community colleges to a bachelor's diploma must be the focus of the nation's attention (American Association of Community Colleges, 2012). This study helps illuminate this path.

Conclusion 7

Selected institutional characteristics of public community colleges in the United States built into a model can be used to explain/predict the levels of awarding of associate degrees by traditional community colleges and by community colleges with bachelor's degrees.

This conclusion is supported by the finding that the stepwise multiple regression analysis model, created from 2009-2010 IPEDS data and containing seven institutional characteristics as independent variables, explained/predicted one fourth (25.9%) of the variance in the number of associate degrees awarded as a percentage of student FTEs at public community college in the United States.

The variables in the model in order of entry were percentage of White students, total core student expenses, percentage of students receiving federal loan aid, percentage of students receiving Pell grants, average fulltime salary of instructional staff, full-time enrollment, and part-time enrollment. The adjusted variance of 25.6% in the award of associate degrees was interpreted as a large effect size according to the Cohen criteria (Cohen, 1988).

Percentage of enrolled students that were White, total core student expenses (if considering the original values), percentage of students receiving federal loan aid, and full-time enrollment had positive beta values, indicating that these variables were associated with higher percentages of associate degrees awarded per FTE. Percentage of students receiving Pell grants, the average fulltime salary of instructional staff, and part-time enrollment had negative beta values, indicating that these variables were associated with lower percentages of associate degrees awarded per FTE.

These outcomes are consistent with other studies. An individual who was a prior analyst within the United States Department of Education and with the Institute for Higher Education

Policy, Clifford Adelman, produced an important study related to higher education degree completion: "Toolbox Revisited: Paths to Degree Completion from Higher School to College." Among other components, he found that part-time status threatens degree completion, and socioeconomic status, of all of the demographic variables, was significantly related to degree completion (Morrison, 2012).

Meanwhile, Pascarella and Terenzini (1991) found a basis for including race in degree completion. They found that African American college students who go to predominantly White schools might encounter higher ranges of social isolation, dissatisfaction, and overt racism than when they go to traditionally African American institutions. In addition, the income of a student's family was also shown to positively affect degree completion. Students coming from a higher socioeconomic standing are likely to possess the resources to go to school and persist towards bachelor's degree completion (Pascarella & Terenzini, 1991).

The study findings and the literature reviewed on the initiation and progress of the community college baccalaureate degree as a viable option in higher education open up two areas of consideration for administrators, faculty, and students. One area of consideration is policy issues that community colleges and universities may need to consider to initiate and/or further develop the community college baccalaureate degree as an integral part of higher education services at traditional community colleges and/or four-year degree institutions. The second area of consideration is additional research that might be conducted. Based on the work that has been done in this study, the researcher is suggesting specific recommendations for each of these areas.

Implications

Many individual specialists consider offering baccalaureates as a substantial departure from what community colleges have done in the past, and it signifies a significant new emphasis.

The supplying of baccalaureate degrees by community colleges appears, usually, to represent an intensification of their career education functions and focus.

The role of community colleges in fostering social equity continues to be debated. Referring to this development, advocates of the community college baccalaureate propose that it heightens the upward mobility prospects of community college students (Skolnik, 2009).

Related to theoretical explanations for the community college bachelor's phenomena, the consumer-choice model is derived from human capital theory. This theoretical model assumes that college students choose which sort of postsecondary education to go after based on their anticipated financial returns. It also assumes that instructional institutions adjust their selections in reaction to changes in student demand (Skolnik, 2009).

A second theoretical model, which may also be related to the community college bachelor's movement, is the business-domination model. Within this view, the upswing of bachelor's degrees in community colleges arrived mainly through the active intervention of business. This occurring by such means as businessmen serving on regulating boards, making specific private donations, lobbying politically, and their effort to influence by business-centered foundations. The goal of such intervention would be to have employees educated at public expense with all the specific technical abilities necessary for business (Skolnik, 2009).

A third possibly related theoretical model is the institutional model. In this is the idea that institutions possess a logic of their own and pursue their own distinctive interests. Within this view, the behavior of an institution cannot be recognized solely with regard to its reactions to its constituent groups - in this case, pupils and employers. Instead, it is important to look to the interests, values, and attitudes of the managers and professionals who have the power to define the interests of the institution and create its goals and policies (Brint & Karabel, 1989).

The community college baccalaureate movement has elements of all of the above. That some enhancements to the fortunes of community colleges and their leaders as the community college bachelors preceded is evident. Additionally, while developing expected outcomes is unquestionably difficult, it appears likely that the community college bachelors did lead to enhancing the stature, support, and security of the community colleges involved.

Additionally, in relation to the community college bachelors, organizational role theory supplements our understanding of useful, efficient, innovative organizational conduct with a different interpretation, one that is political, and does not regard the constraints on community colleges as plainly acute or immutable, and which highlights the role of preference versus practicality. This theory supplements the focus on the organization and our understanding of optimal institutional conduct, offering associate degrees, with a supplemental interpretation, one that looks at the political aspects and self-interest, in relation to the desire to offer bachelor's degrees (Child, 1972).

Certainly, there also appears to be a highly political aspect surrounding the community college with bachelors. In the literature review for this study, the organizational self-interest and political aspects of the community college baccalaureate often seem to predominate. The organizational pros-and-cons of the two-year with bachelor's are plentiful, varied and valid, but repeatedly the actual related decisions seemed to be made, largely, in the political sphere. The two-year with bachelors was blocked, politically, by four-year schools in Michigan – ostensibly, because they felt it would be duplicative, but their fear of competition played a role in their opposition.

Isomorphism is a mathematical term that indicates what could be happening with regard to community colleges who seek to offer bachelor's degrees. Isomorphism is a result in

mathematical game theory: you can theoretically optimize a (mathematical) game simply by imitating your opponent's previous move, assuming he is trying to win. As community colleges are competitive, other colleges that are also attempting to 'win', or at least survive simply must adopt the winning strategy (competition). It should also be noted that various regulating and accrediting agencies have extensive requirements...it simply makes sense from an administrative point of view, to copy a protocol or system that is known to satisfy those requirements (Moscatello, 2012).

David Riesman (1956) originally introduced the idea of institutional isomorphism. He observed, "there is no doubt that colleges and universities in this country model themselves upon each other...All one has to do is read catalogs to realize the extent of this isomorphism" (Riesman, 1956, p. 25). Isomorphism describes a movement from institutional diversity toward institutional homogeneity. Riesman indicates that diversity within a system, like higher education, is essential for its survival, while homogenization will compromise the system (Riesman, 1956). One particular kind of higher education institution cannot meet the requirements of all pupils.

Policy Recommendations

More states need to allow community colleges to offer bachelor's degrees.

The basis for community colleges to incorporate bachelor's degrees can be defined from a societal and an institutional viewpoint. From a societal viewpoint, an important element is meeting the need for a workforce educated at the baccalaureate level. Insofar as community college students encounter obstacles that restrict baccalaureate attainment, the chance for them to finish their degree at a community college would most likely improve their earnings as well as their societal contributions.

From an institutional viewpoint, an issue for community colleges is the fact that many of the occupations that it has been supplying training for have, in recent times, increased their credential requirement to the bachelor's degree. Therefore, if community colleges are going to continue to be significant suppliers of graduates for these occupations, community colleges need to make sure college students in these areas possess the chance to get the required credential - a baccalaureate.

In addition, community colleges are also known for their:

- **Affordability:** Non-traditional students who are ineligible for financial aid find the higher expenses and charges at four-year universities a substantial difficulty.
- **Flexibility:** Students who work will often be unable to enroll in four-year schools during the day when conventional universities, who may have typically focused on full-time college students, offer their courses. Community colleges are more likely to offer nighttime as well as weekend courses.
- **Responsiveness:** Individuals who are coming back to school may feel out of place in a class environment geared to younger college students.
- **Location & Availability:** Several nontraditional college students who are balancing family as well as work responsibilities, together with their education find it too difficult or impossible to commute in order to complete their bachelor's degree on a college campus located away from their residential area.
- **Faculty:** Community college faculty members are familiar with the local community and attuned to meeting the needs of non-traditional college students. Community college faculty, with a major focus on classroom teaching, are often more accessible

to pupils when compared with faculty at conventional universities who are more focused on writing and research.

- **Learner-Centered Surroundings:** Away from school for many years, some adults require refresher programs or perhaps more teaching help in order to be productive with their coursework. These are more generally available at a community college.

As indicated in this study, some individuals feel the baccalaureate degree is logically related to the community college mission. With altered higher education demographics, greater needs pertaining to higher education entry at a reasonable price, a changing employment market that demands higher qualifications, along with varying business and community expectations, there is pressure to expand the role of traditional community colleges.

In addition, with many more students graduating from high school, the continued boost in the volume of adults returning to continue their education, and also the larger number of jobs needing training outside of an associate degree, community colleges with local community locations, traditionally reduced costs, ability to adjust, a history of addressing local community needs, may be the entity to provide a baccalaureate degree.

Issues such as the elevated need by nontraditional students that are location bound, increased job marketplace requirements in selected fields, needs for first time kinds of baccalaureate degrees in applied and technical areas, and overcrowding on four-year campuses, bring community colleges to the fore as the practicable baccalaureate option.

The community college baccalaureate provides a way of reaching underserved learners, not necessarily limited to older students, that supports enrollment in bachelors-level, occupational and technical degree programs. State and institutional laws and policies ought to

emphasize the significance of utilizing the community college baccalaureate for workforce and economic development needs.

States should adopt legislation, policies, and frameworks that help them in developing complete programs for individuals who want to come back to higher education. The community college bachelors provides a viable alternative for reaching adult learners and inspiring their participation in additional learning to satisfy personal, educational and economic needs (Florida Department of Education, 2005).

The primary means for generating bachelor's degrees continues to be to rely on high school graduates to progress in adequate numbers towards the bachelor's level, via four-year universities. However, more and more the "traditional" postsecondary student has been out of school and in the workforce for a number of years prior to coming back to college. In addition, many of these "nontraditional" college students are place-bound due to family members and work duties.

This reality, coupled with the problem of significant competition for scarce state resources, is indicative of the need for states to think about other, cost-effective points of entry for baccalaureate instruction - such as the community college baccalaureate. The community college bachelor's has been developed to meet a higher-education marketplace need by community colleges.

State legislatures should follow Florida's lead and allow community college based baccalaureate degree access. In this way, the legislatures could recognize the reality of the educational and economic development needs of place-bound, non-traditional students who have increased the demand for localized bachelor's degree programs.

States should allow community colleges to develop proposals to supply bachelor's degrees to satisfy particular workforce needs. These proposals could be offered to state boards of higher education for acceptance. Community colleges would be required to pursue regional accreditation to alter their standing to baccalaureate degree-granting schools (Russell, 2010).

At the same time, the mission of the community colleges must continue to be to offer and award associate degrees. Community colleges should not be permitted to terminate associate degree programs, particularly for those college students needing to transfer to four-year universities. Additionally, community colleges should not be permitted to provide bachelor's degrees that are currently offered at the closest four-year university (Florida Department of Education, 2005).

States with community college bachelor's schools should also look at adopting the following additional policy recommendations:

- Assure accreditation and quality. Embrace baccalaureate accreditation requirements and quality assessment processes that mirror similar programs at other community colleges. Prior to the creation of new degrees and programs, there should be an assessment of the institution's capacity to adequately prepare students in the related subject matter. Teams of people from the best programs ought to conduct related reviews. Additionally, the correct accrediting organizations must recognize and accept the alteration of mission.
- Maintain mission of community college. Community colleges should not modify or change their role and overall mission upon offering bachelor's degrees. Providing community college workforce requirements is extremely valuable and should continue to be a key function.

- Open Admissions: Community colleges historically operate under an open admissions policy. To take full advantage of the community college baccalaureate, this policy should remain in place for community college bachelor's degree programs.
- Avoid program duplication. Reduce duplication by coordinating offerings within the state. One approach is to centralize governance into an individual entity, enhancing oversight. Establish guidelines that will permit programs where there are worker shortages.
- Consider geographic requirements. Determine geographical places where particular job categories are needed. Duplicate programs could be placed in rural areas not readily accessible to other programs.
- Provide resources for upper-division programs. Make sure community colleges contain the resources to offer bachelor's degrees, which includes funding pertaining to upper-division courses. In relation to this, state leaders should develop fresh funding formulas regarding community colleges that offer bachelor's degrees.
- Establish faculty workload and salary criteria. Leaders ought to establish earnings schedules and teaching load criteria ahead of authorizing baccalaureate degrees from local community colleges. This would take into account possible adjustments to instructor workload and pay. In addition, consideration should be given to inner faculty relations and outlook and associations between those who instruct lower- and upper-division programs.

(National Association of Community College Teacher Education Programs, 2005)

Organizational change, such as the two-year with bachelors, can be understood as a change in organizational factors and methods. A community college's success is founded on its

ability and readiness to endure significant enterprise alterations, because its mission should be to provide comprehensive programs and services that match the different and altering needs of the area it serves. Within this context, this quantitative study brought clarity by looking at the impact of the community college baccalaureate within the community college organization, and how the adoption of courses of action and the allocation of resources needed to carry out the community college bachelor's degree granting objective have specifically impacted the community colleges primary associate degree-granting role (Van Wagoner, 2004).

One particular kind of higher education institution cannot meet the requirements of all pupils. If all institutions within a system are the same, there is no competition, and competition results in excellence. Variations in institutions facilitate selection and lead to opportunities, whereas sameness removes selection and results in stagnation. Competition is the key.

Most importantly, if community colleges develop hybrid institutions by supplying a number of occupationally prepared bachelor degrees while retaining community college ideals, then more diversity within the system would be the outcome. However, if community colleges offer bachelor degrees and neglect to retain their core, remedial, vocational, transfer, community education focus, then isomorphism will be the consequence.

The results of this study indicate that community colleges that offer bachelor's degrees have indeed developed hybrid institutions by supplying a number of occupationally prepared bachelor degrees while retaining community college ideals, creating more diversity within the system as the outcome; and diversity within a system like higher education is essential for its survival. This seems to be demonstrated by the ability of these institutions to continue their traditional associate degree-granting role unabated.

A decline in the awarding of associate degrees, by community colleges who offer bachelor's degrees, when compared to community colleges that do not offer bachelor's degrees, would be an indicator of homogeneity. This study determined that this decline is not occurring. As a result, this study seems to indicate that community colleges can supply bachelor's degrees while continuing their historical mission.

Marketplace pressure for better educational access comes whenever there is an absence of college graduates, which is particularly the case when the shortage is in high-demand work fields. As an example, the current lack of capacity to graduate teachers and nurses to meet the requirements of society has created segments of the educational market where community colleges can thrive. Both educational market and institutional forces have an impact on institutional goals pertinent to competition for assets and enhancement of prestige (Plecha, 2008).

This study seemingly indicates the results of successful higher education marketplace competition, with community colleges evolving to offer bachelor's degrees while successfully continuing their traditional associate degree-granting role. This study indicates that the awarding of associate and bachelor's degrees is not mutually exclusive. The one can be conducive to the other. A successful synergy can be established.

Research Recommendations

Replicating the Study

This study provided an invaluable snapshot of the community college baccalaureate experience using selected research parameters in 54 public community colleges that had implemented the program in the last decade. A logical follow-up of this study would be to replicate the research in five or ten years, during which time the community college baccalaureate phenomenon would have had more time to mature, in order to corroborate and

shed further light on the study's findings, as well as explore other contextual, institutional, and societal factors that may have a bearing on the phenomenon.

Quality of the Community College Baccalaureate

One of the strongest arguments made in opposition to the community college baccalaureate degree is the “quality” of community college bachelor's degrees. Opponents feel that community colleges are not able to offer four-year degrees, and/or are not capable of offering degrees of the same quality as four-year institutions because they are structurally deficient. They contend further that the community college baccalaureate is in reality an inferior degree which the market will not respect, and which four-year universities will not accept for admission to advanced degrees. Opponents also believe that the community college baccalaureate may not provide the same intellectual rigor as a baccalaureate from existing four-year schools.

In addition to the above arguments, there is a fear that community college baccalaureate degrees will be substandard in comparison with university degrees. Underscoring this fear is the belief that a baccalaureate degree from a community college will be viewed as second-rate, because the standard of education at a community college is not comparable to that at a university since community colleges are not likely to provide higher-level classes that are as thorough as university curricula. Consequently, graduates of community colleges may not possess the critical thinking skills expected of those with a baccalaureate diploma.

Since perceptions are critical, it may be hard to convince organizations that the bachelor's degree from a community college is as good as a bachelor's degree from a university. Because of this, over time, the overall prestige and worth of the baccalaureate diploma may be decreased, harming all bachelor's degree holders, not just those individuals who received bachelor's degrees from community colleges.

Access to Higher Education

In contrast with the negativity regarding community college baccalaureates among opponents, supporters of the move contend that adding bachelor's degrees to community colleges would promote enhanced geographic, economic, and academic access to higher education. They also argue that its availability at community colleges would improve matriculation and progression for college students with associate degrees, provide students with the ability to maintain family and work relationships, demonstrate the community college commitment to workforce development, and show its responsiveness to community needs. Research to verify these arguments would be useful.

One of the possibilities of the community college baccalaureate is that a community college may change from open-access to restricted admission. Opponents argue that a lessening of open access and a distorted entrance and starting point for students in higher education would be at stake. This aspect of access is worthy of study and could be combined with the above research recommendation.

Impact on Institutional Culture

Any change or innovation introduced into an organization will undoubtedly have an impact on the organization's culture and its overall effectiveness in accomplishing its goals. The impact of the introduction of bachelors at traditional community colleges on the colleges' culture should become a part of the institution's research agenda. This agenda may include faculty values and goals, teaching and research emphases, and the institution's original and new mission.

At two-year with bachelor's schools, newly hired faculty to teach associate degree and bachelors degree programs, could have different values and goals than existing faculty. Faculty who are employed to teach upper-division programs might have values that are not the same as existing community college faculty.

New requirements for faculty to conduct research may conflict with the community colleges' traditional emphasis on teaching. Problems related to faculty may occur because of unequal pay and instruction load between higher and lower division faculty.

Disputes regarding the mission of the institution can also develop. As they move to a two-year with bachelor's status, community colleges can experience a split-mission personality, attempting to keep the best in their community college heritage and striving to honor their new role as a bachelor's level institution. These schools will need to bring policy, culture, and governance in full support of their new status and mission. Importantly, offering the baccalaureate will change the two-year college in terms of organization development. New faculty coming into the college community with implementation of bachelor's programs bring a wider diversity in values and expectations, and the leadership challenge related to the orchestration of diversity and community will be significant.

Funding Issues

Some of the most difficult current higher education questions revolve around funding. This could be an area for additional research on two-year schools with bachelors.

Additional funding, it could be argued, might possibly be better spent on four-year schools rather than supporting "mission creep" at community colleges. Financial resources in higher education are already deficient. Critics note that community colleges offering bachelor's degrees will need to hire additional faculty and pursue accreditation, when transfer programs already available can move students on to a four-year school.

Community colleges supplying baccalaureate degrees may need to divert resources from their historic pursuits to satisfy four-year standards. Experts indicate that community colleges do not have the economic resources to operate the baccalaureate courses, mainly because this necessitates enhanced development of the library holdings, labs, and faculty.

The exact expense of running a baccalaureate program is usually not known because expenditures are sometimes combined along with other curricular areas. With regard to community colleges, the question could be raised whether they can create a cost model for offering baccalaureate degrees that is substantially different from the cost model presently employed by four-year universities. In addition, it could be asked how the college baccalaureate will contend for fixed assets and enrollment needs that will have to be addressed.

The current economic climate, combined with the desire for enhanced educational opportunities, makes it critical for higher education leaders to provide available dollars, and the best faculty and staff, in ways that can make the most difference to their institution's capability to achieve results. Financial limitations dictate that universities cannot continue all of their existing activities. However, each activity is not equally important when it comes to impact. Being successful during a poor economy means safeguarding and focusing on the school's basic mission, the educational services that are most important to the people the school serves, and the institutional infrastructure necessary to do this

Duplication of Higher Education Services

Future research could focus on whether or not the community college bachelors results in a significant duplication of higher education services. Four-year institutions are currently supplying the baccalaureate programs that community colleges are seeking to offer. Online classes, along with other curriculum delivery alternatives, provide verified and price-effective ways of supplying baccalaureate programs within the United States. Community colleges also already offer bachelors programs in partnership with universities.

Confronted with scarce assets, avoiding duplication must be a principal objective. Permitting community colleges to award baccalaureate degrees without careful assessment of

need can cause unnecessary and expensive duplication. As such, most states that permit community colleges to award baccalaureate degrees have confronted this issue with caution.

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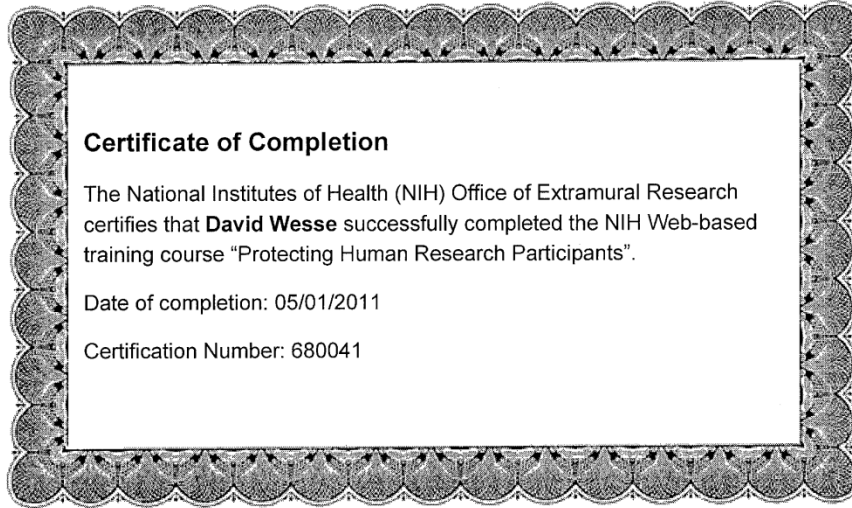
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APPENDIX A: INSTITUTIONAL REVIEW BOARD APPROVAL

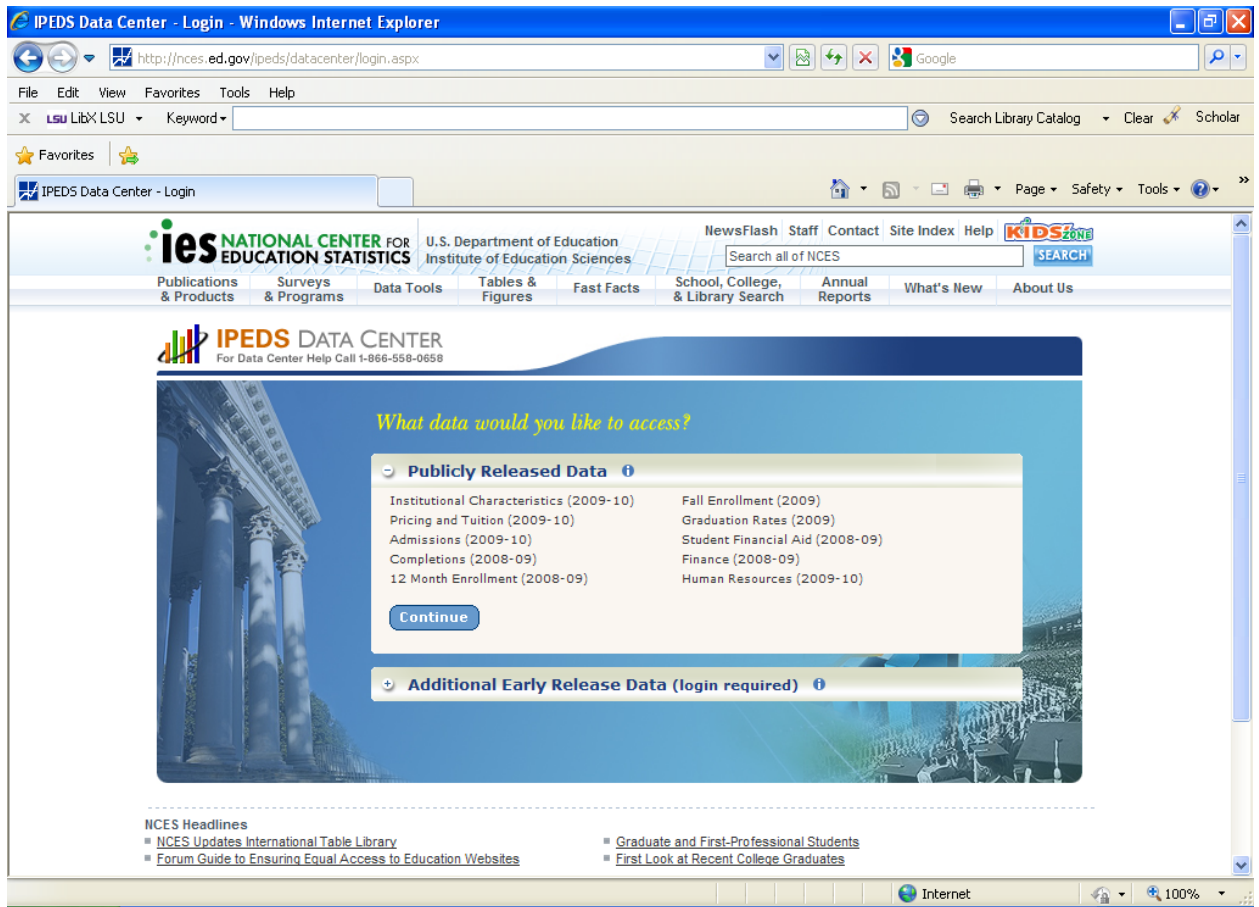
Protecting Human Subject Research Participants

Page 1 of 1

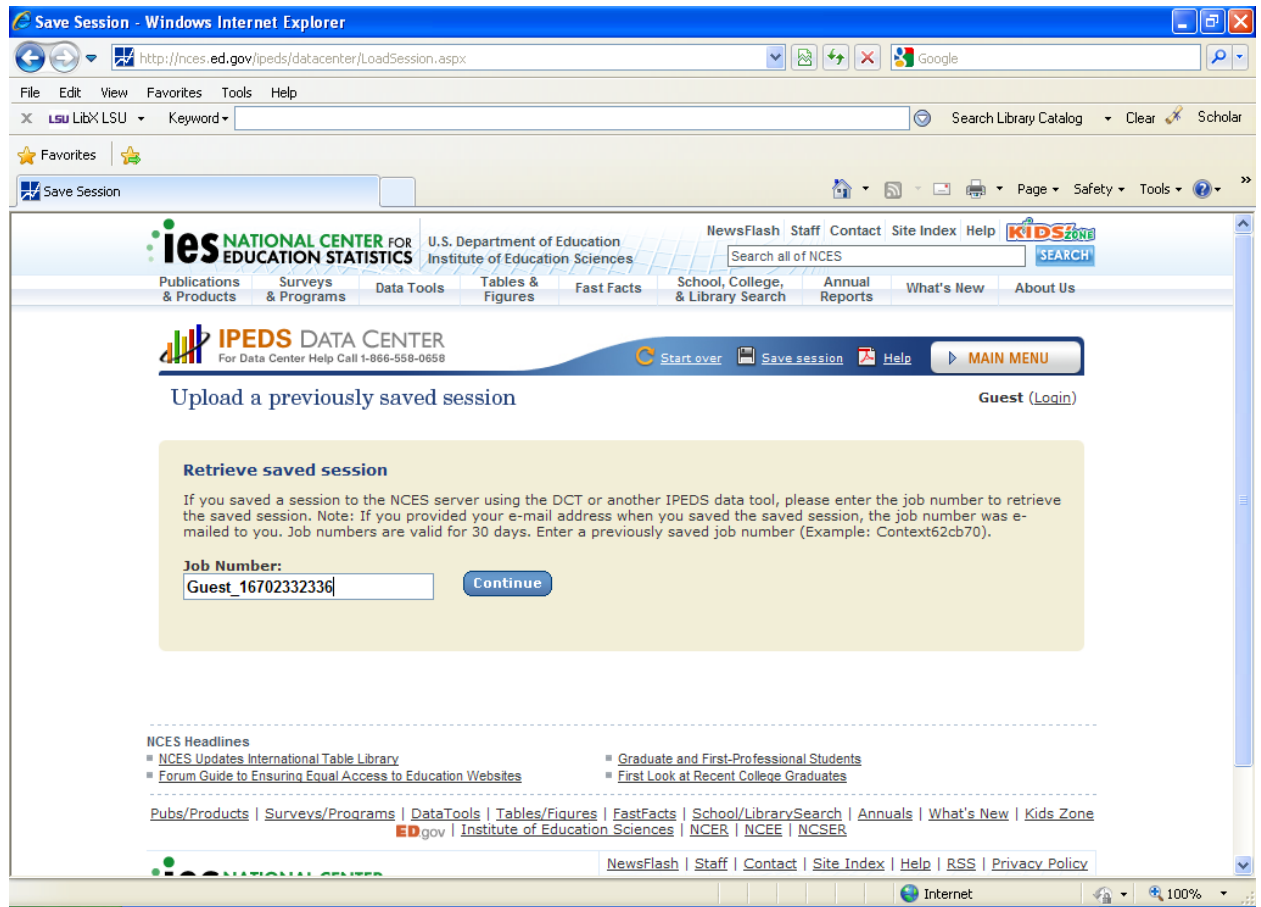


APPENDIX B: DATA COLLECTION QUERY FORM AND DETAILED DESCRIPTIONS OF VARIABLES

Go to the website: <http://nces.ed.gov/ipeds/datacenter/>



Appendix B (continued)



Appendix B (continued)

The screenshot shows a Windows Internet Explorer browser window displaying the IPEDS Data Center website. The address bar shows the URL <http://nces.ed.gov/ipeds/datacenter/SelectVariables.aspx>. The page header includes the IPEDS Data Center logo and navigation links such as NewsFlash, Staff, Contact, Site Index, and Help. The main content area is titled "Create/Download a list of variables" and features a "Select Variables" section. This section includes a "My Comparison Institution" dropdown set to "None Selected" and a message stating "You have selected 16 variable(s), 16 can be used in this report." Below this, there are four options for selecting variables: "Browse/Search Variables", "Choose from My Variables", "Create Derived Variables", and "Upload Variables". A search bar is provided for finding variables, and a "Continue" button is visible at the bottom right of the search area. The browser's status bar at the bottom indicates the connection is to "Internet" and the zoom level is set to "100%".

Appendix B (continued)

Guest_157438571397

IPEDS Data Center

nces.ed.gov/ipeds/datacenter/MasterVariableList.aspx?changeSteps=YES&stepId=2

Compare individual institutions

Guest (Login)

1. Select Institutions 2. Select Variables 3. Output

My Comparison Institution - None Selected

Select Institutions - You have selected 1054 institution(s)

Select Variables - You have selected 24 variable(s), 24 can be used in this report.

ADD VIEW/EDIT VIEW/EDIT

How would you like to select variables to include in your data file/report?

Browse/Search Variables Choose from My Variables Create Derived Variables Upload Variables

Select the variable(s) you would like to include in your data file/report.

Continue

My Variables Edit Years Delete Variable Modify years for all variables in a file DELETE ALL

Derived Variables Select all Unselect all

Title	
<input checked="" type="checkbox"/> Total core expenses per FTE (GASB)	DELETE

Frequently used/Derived variables: Financial indicators Select all Unselect all

Year	Variable	
<input checked="" type="checkbox"/> 2009-10	Instruction expenses as a percent of total core expenses (GASB)	1 0
<input checked="" type="checkbox"/> 2009-10	All other core expenses per FTE (GASB)	2 0
<input checked="" type="checkbox"/> 2009-10	Institutional support expenses per FTE (GASB)	3 0
<input checked="" type="checkbox"/> 2009-10	Student service expenses per FTE (GASB)	4 0
<input checked="" type="checkbox"/> 2009-10	Academic support expenses per FTE (GASB)	5 0
<input checked="" type="checkbox"/> 2009-10	Public service expenses per FTE (GASB)	6 0
<input checked="" type="checkbox"/> 2009-10	Research expenses per FTE (GASB)	7 0
<input checked="" type="checkbox"/> 2009-10	Instruction expenses per FTE (GASB)	8 0

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Appendix B (continued)

Guest_157438571397

Firefox | IPEDS Data Center | nces.ed.gov/ipeds/datacenter/MasterVariableList.aspx?changeSteps=YES&stepId=2

Google

Frequently used/Derived variables: Degrees/awards			Select all	Continue	i
Year	Variable				
<input checked="" type="checkbox"/> 2009-10	Bachelor's degree		1	2	
<input checked="" type="checkbox"/> 2009-10	Associate's degree		1	2	

Frequently used/Derived variables: Student financial aid of full-time first-time degree or certificate-seeking undergraduate students			Select all	Unselect all	WZB
Year	Variable				
<input checked="" type="checkbox"/> 2009-10	Percent of full-time first-time undergraduates receiving federal, state, local or institutional grant aid		1	2	
<input checked="" type="checkbox"/> 2009-10	Percent of full-time first-time undergraduates receiving Pell grants		1	2	
<input checked="" type="checkbox"/> 2009-10	Percent of full-time first-time undergraduates receiving federal student loans		1	2	

Frequently used/Derived variables: Average salaries and full-time equivalent staff			Select all	Unselect all	WZB
Year	Variable				
<input checked="" type="checkbox"/> 2009-10	Average salary equated to 9-month contracts of full-time instructional staff - all ranks		1	2	

Frequently used/Derived variables: Total cost of attendance			Select all	Unselect all	WZB
Year	Variable				
<input checked="" type="checkbox"/> 2009-10	Total price for in-state students living off campus (not with family) 2009-10		1	2	

Frequently used/Derived variables: Fall enrollment/retention rates			Select all	Unselect all	WZB
Year	Variable				
<input checked="" type="checkbox"/> Fall 2009	Percent of total enrollment that are White		1	2	
<input checked="" type="checkbox"/> Fall 2009	Percent of total enrollment that are Black or African American		1	2	
<input checked="" type="checkbox"/> Fall 2009	Percent of total enrollment that are Hispanic/Latino		1	2	
<input checked="" type="checkbox"/> Fall 2009	Full-time equivalent fall enrollment		1	2	
<input checked="" type="checkbox"/> Fall 2009	Full-time enrollment		1	2	
<input checked="" type="checkbox"/> Fall 2009	Part-time enrollment		1	2	

Institutional Characteristics: Institutional Characteristics			Select all	Unselect all	WZB
Year	Variable				

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Appendix B (continued)

Guest_157438571397

Institutional Characteristics: Institutional Characteristics		Select all Unselect all	0/2/81
Year	Variable		
<input checked="" type="checkbox"/> 2009-10	Associate's degree		
<input checked="" type="checkbox"/> 2009-10	Bachelor's degree		

Appendix B (continued)

IPEDS Look-up Tables

Click:
http://nces.ed.gov/ipeds/
IPEDS Dat Center - Start Data Analysis Here
Compare Individual Institutions
Continue
By Groups
EZ Group
Carnegie Classifications
Pick all Associate Public & Public 4-year Primarily Associate
Save
Search – 1054 community colleges will appear
Continue
Choose Variables (SEE BELOW) All variables are under “Frequently Used” and 2009-2010
Continue
Table Name
OK
Open
Save Session

Appendix B (continued)

Choosing Variables

Click:	Click – ALL ARE 2009-2010
Full time equivalent fall enrollment	Click Frequently Used Variables; Fall Enrollment/Retention Rates; Total full and part time enrollment and fall FTE; Click Full Time
Part time enrollment	Click Frequently Used Variables; Fall Enrollment/Retention Rate; Total full and part time enrollment and fall FTE; Click Part Time;
Instruction expenses as a percent of total core expenses	Click Frequently Used Variables; Click Financial Indicators; Percent Distribution of core expense by function; Instruction expenses as a percent of total core expenses GASB
Total Core Expenses per FTE Student derived	Click Frequently Used Variables; Click financial indicators; Core expenses per FTE enrollment, by function, All GASB
Total Core Expenses per FTE Student derived	Click create derived variables; select summation; select my variables; select all variables relating to core expenses per FTE (GASB); continue
Average salary equated to 9 month contracts of full time instructional staff	Click Frequently Used Variables; Average salaries of full time equivalent staff; Average salaries of full-time instructional staff equated to 9-month contracts, by academic rank; Average salary equated to 9-month contracts of full-time instructional staff - all ranks
Total price for in state students living off campus not with family	Click Frequently Used Variables; Total cost of attendance; By residency and housing status; Total price for in-state students living off campus (not with family)
Bachelors degree	Click Frequently Used Variables; Click Degrees/awards; Click 2009-10 to current year (new advanced degree classification); Click Bachelor's Degrees
Associate degree	Click Frequently Used Variables; Click degrees/awards; Click Degrees/awards; Click 2009-10 to current year (new advanced degree classification); Click Associate Degrees
Percent of undergraduate students receiving federal state local or institutional grant aid	Click Frequently Used Variables; Student financial aid of full-time first-time degree or certificate-seeking undergraduate students; 2007-08 to current year (2009-2010); Percent of undergraduate students receiving federal, state, local, or institutional grant aid

Appendix B (continued)

Percent of undergraduate students receiving Pell grants	Click Frequently Used Variables; Student financial aid of full-time first-time degree or certificate-seeking undergraduate students; 2007-08 to current year (2009-2010); Percent of undergraduate students receiving Pell grants
Percent of undergraduate students receiving Federal student loans	Click Frequently Used Variables; Student financial aid of full-time first-time degree or certificate-seeking undergraduate students; 2007-08 to current year (2009-2010); Percent of undergraduate students receiving Federal student loans
Percentage of Total Enrollment African American Non Hispanic Derived	Click Frequently Used Variables; Fall enrollment/retention rates; Percent of total enrollment by race/ethnicity; Click percent of total enrollment that are African American, non-Hispanic
Percentage of Total Enrollment Hispanic Derived	Click Frequently Used Variables; Fall enrollment/retention rates; Percent of total enrollment by race/ethnicity; Click percent of total enrollment that are Hispanic
Percentage of Total Enrollment White Non Hispanic Derived	Click Frequently Used Variables; Fall enrollment/retention rates; Percent of total enrollment by race/ethnicity; Click percent of total enrollment that are White, non-Hispanic
Award levels offered	Click Institutional characteristics; click award levels offered (new post-baccalaureate degree classification 2009-10 to current year); click associate degree and bachelor's degree

IPEDS DESCRIPTION OF VARIABLES

Full-time equivalent enrollment

Variable Description

Full-time equivalent enrollment

This variable is derived from the enrollment by race/ethnicity section of the fall enrollment survey. The full-time equivalent of the institution's part-time enrollment is estimated and then added to the full-time enrollment of the institution. This formula has been used to produce the full-time equivalent enrollment that is published annually in the Digest of Education Statistics. The full-time equivalent of part-time enrollment is estimated by multiplying the part-time enrollment by factors that vary by control and level of institution and level of student. The following factors were used:

Part-time undergraduate enrollment (line 22)

Public 4-year .403543

Not-for-profit and for-profit, 4-year .392857

Public 2-year and <2year .335737

All other sectors .397058

First professional (line 23)

Public 4-year .600000

Not-for-profit and for-profit, 4-year .545454

Graduate (line 25)

Public 4-year .361702

Not-for-profit and for-profit, 4-year .382059

These factors were estimated using reported full-time equivalent of part-time enrollments from enrollment data collected in the Higher Education General Information System (HEGIS) 1967-1986.

Full-time enrollment

Variable Description

Total men and women enrolled for credit full time in the fall of the academic year.

FULL-TIME STUDENT - Undergraduate—A student enrolled for 12 or more semester credits , or 12 or more quarter credits, or 24 or more contact hours a week each term. Graduate—A student enrolled for 9 or more semester credits, or 9 or more quarter credits, or a student involved in thesis or dissertation preparation that is considered full time by the institution. First-professional—As defined by the institution.

CREDIT - Recognition of attendance or performance in an instructional activity (course or program) that can be applied by a recipient toward the requirements for a degree, diploma, certificate, or other formal award.

NOTE: Enrollment reported is of the institution's official fall reporting date or October 15.

Appendix B (continued)

Variable Sources

Derived Data Feedback report - IPEDS, Winter 2006-07 and Spring 2007, Enrollment component

Part-time enrollment

Variable Description

Total men and women enrolled for credit part time in the fall of the academic year.

PART-TIME STUDENT - Undergraduate—A student enrolled for either 11 semester credits or less, or 11 quarter credits or less, or less than 24 contact hours a week each term. Graduate—A student enrolled for either 8 semester credits or less, or 8 quarter credits or less.

CREDIT - Recognition of attendance or performance in an instructional activity (course or program) that can be applied by a recipient toward the requirements for a degree, diploma, certificate, or other formal award.

NOTE: Enrollment reported is of the institution's official fall reporting date or October 15.

Variable Sources

Derived Data Feedback report - IPEDS, Winter 2006-07 and Spring 2007, Enrollment component

Instruction expenses as a percent of total core expenses (GASB)

Variable Description

Instruction expenses as a percent of total core expenses for public institutions using GASB 34/35 standards is derived as follows:

Instruction expenses (F1C011) divided by total core expenses (F1COREXP)

Instruction - A functional expense category that includes expenses of the colleges, schools, departments, and other instructional divisions of the institution and expenses for departmental research and public service that are not separately budgeted. Includes general academic instruction, occupational and vocational instruction, community education, preparatory and adult basic education, and regular, special, and extension sessions. Also includes expenses for both credit and non-credit activities. Excludes expenses for academic administration where the primary function is administration (e.g., academic deans). Information technology expenses related to instructional activities if the institution separately budgets and expenses information technology resources are included (otherwise these expenses are included in academic support).

Appendix B (continued)

FASB institutions include actual or allocated costs for operation and maintenance of plant, interest, and depreciation. GASB institutions do not include operation and maintenance of plant or interest, but may, as an option, distribute depreciation expense.

Variable Sources

Derived

Instruction expenses per FTE (GASB)

Variable Description

Instruction expenses per FTE enrollment for public institutions using GASB 34/35 standards is derived as follows:

Instruction expenses (F1C011) divided by 12-month FTE enrollment (FTE12MN)

Instruction - A functional expense category that includes expenses of the colleges, schools, departments, and other instructional divisions of the institution and expenses for departmental research and public service that are not separately budgeted. Includes general academic instruction, occupational and vocational instruction, community education, preparatory and adult basic education, and regular, special, and extension sessions. Also includes expenses for both credit and non-credit activities. Excludes expenses for academic administration where the primary function is administration (e.g., academic deans). Information technology expenses related to instructional activities if the institution separately budgets and expenses information technology resources are included (otherwise these expenses are included in academic support). FASB institutions include actual or allocated costs for operation and maintenance of plant, interest, and depreciation. GASB institutions do not include operation and maintenance of plant or interest, but may, as an option, distribute depreciation expense.

The full-time-equivalent (FTE) enrollment used is the sum of the institutions' FTE undergraduate enrollment and FTE graduate enrollment (as calculated from or reported on the 12-month Enrollment component) plus the estimated FTE of first-professional students. Undergraduate and graduate FTE are estimated using 12-month instructional activity (credit and/or contact hours).

For more information see the variable description for 12-month full-time equivalent enrollment (info link) under frequently used\ 12-month enrollment.

Variable Sources

Derived

Appendix B (continued)

Research expenses per FTE (GASB)

Variable Description

Research expenses per FTE enrollment for public institutions using GASB 34/35 standards is derived as follows:

Research expenses (F1C021) divided by 12-month FTE enrollment (FTE12MN)

Research (expense) - A functional expense category that includes expenses for activities specifically organized to produce research outcomes and commissioned by an agency either external to the institution or separately budgeted by an organizational unit within the institution. The category includes institutes and research centers, and individual and project research. This function does not include nonresearch sponsored programs (e.g., training programs). Also included are information technology expenses related to research activities if the institution separately budgets and expenses information technology resources (otherwise these expenses are included in academic support.) FASB institutions include actual or allocated costs for operation & maintenance of plant, interest, and depreciation. GASB institutions do not include operation & maintenance of plant or interest but may, as an option, distribute depreciation expense.

The full-time-equivalent (FTE) enrollment used is the sum of the institutions' FTE undergraduate enrollment and FTE graduate enrollment (as calculated from or reported on the 12-month Enrollment component) plus the estimated FTE of first-professional students. Undergraduate and graduate FTE are estimated using 12-month instructional activity (credit and/or contact hours).

Variable Sources

Derived

Public service expenses per FTE (GASB)

Variable Description

Public service expenses per FTE enrollment for public institutions using GASB 34/35 standards is derived as follows:

Public service expenses (F1C031) divided by 12-month FTE enrollment (FTE12MN)

Appendix B (continued)

Public service (expense) - A functional expense category that includes expenses for activities established primarily to provide noninstructional services beneficial to individuals and groups external to the institution. Examples are conferences, institutes, general advisory service, reference bureaus, and similar services provided to particular sectors of the community. This function includes expenses for community services, cooperative extension services, and public broadcasting services. Also includes information technology expenses related to the public

service activities if the institution separately budgets and expenses information technology resources (otherwise these expenses are included in academic support). FASB institutions include actual or allocated costs for operation and maintenance of plant, interest, and depreciation. GASB institutions do not include operation and maintenance of plant or interest, but may, as an option, distribute depreciation expense.

The full-time-equivalent (FTE) enrollment used is the sum of the institutions' FTE undergraduate enrollment and FTE graduate enrollment (as calculated from or reported on the 12-month Enrollment component) plus the estimated FTE of first-professional students. Undergraduate and graduate FTE are estimated using 12-month instructional activity (credit and/or contact hours).

For more information see the variable description for 12-month full-time equivalent enrollment (info link) under frequently used\ 12-month enrollment.

Variable Sources

Derived

Academic support expenses per FTE (GASB)

Variable Description

Academic support expenses per FTE enrollment for public institutions using GASB 34/35 standards is derived as follows:

Academic support (F1C051) expenses divided by 12-month FTE enrollment (FTE12MN)

Academic support A functional expense category that includes expenses of activities and services that support the institution's primary missions of instruction, research, and public service. It includes the retention, preservation, and display of educational materials (for example, libraries, museums, and galleries); organized activities that provide support services to the academic functions of the institution (such as a demonstration school associated with a college of education or veterinary and dental clinics if their primary purpose is to support the instructional

Appendix B (continued)

program); media such as audiovisual services; academic administration (including academic deans but not department chairpersons); and formally organized and separately budgeted academic personnel development and course and curriculum development expenses. Also included are information technology expenses related to academic support activities; if an institution does not separately budget and expense information technology resources, the costs associated with the three primary programs will be applied to this function and the remainder to institutional support. Under FASB standards this includes actual or allocated costs for operation

and maintenance of plant, interest, and depreciation. Under GASB standards this does not include operation and maintenance of plant or interest but may include depreciation expense.

The full-time-equivalent (FTE) enrollment used is the sum of the institutions' FTE undergraduate enrollment and FTE graduate enrollment (as calculated from or reported on the 12-month Enrollment component) plus the estimated FTE of first-professional students. Undergraduate and graduate FTE are estimated using 12-month instructional activity (credit and/or contact hours).

For more information see the variable description for 12-month full-time equivalent enrollment (info link) under frequently used\ 12-month enrollment.

Variable Sources

Derived

Student service expenses per FTE (GASB)

Variable Description

Student services expenses per FTE enrollment for public institutions using GASB 34/35 standards is derived as follows:

Student service expenses (F1C061) divided by 12-month FTE enrollment (FTE12MN)

Student services (expenses) - A functional expense category that includes expenses for admissions, registrar activities, and activities whose primary purpose is to contribute to students emotional and physical well-being and to their intellectual, cultural, and social development outside the context of the formal instructional program. Examples include student activities, cultural events, student newspapers, intramural athletics, student organizations, supplemental instruction outside the normal administration, and student records. Intercollegiate athletics and student health services may also be included except when operated as self-supporting auxiliary enterprises. Also may include information technology expenses related to student service activities if the institution separately budgets and expenses information technology resources (otherwise these expenses are included in institutional support.) FASB institutions include actual or allocated costs for operation and maintenance of plant, interest,

Appendix B (continued)

and depreciation. GASB institutions do not include operation and maintenance of plant or interest but may, as an option, distribute depreciation expense.

The full-time-equivalent (FTE) enrollment used is the sum of the institutions' FTE undergraduate enrollment and FTE graduate enrollment (as calculated from or reported on the 12-month Enrollment component) plus the estimated FTE of first-professional students. Undergraduate and graduate FTE are estimated using 12-month instructional activity (credit and/or contact hours).

For more information see the variable description for 12-month full-time equivalent enrollment (info link) under frequently used\ 12-month enrollment.

Variable Sources

Derived

Institutional support expenses per FTE (GASB)

Variable Description

Institutional support expenses per FTE enrollment for public institutions using GASB 34/35 standards is derived as follows:

Institutional support expenses (F1C071) divided by 12-month FTE enrollment (FTE12MN)

Institutional support - A functional expense category that includes expenses for the day-to-day operational support of the institution. Includes expenses for general administrative services, central executive-level activities concerned with management and long range planning, legal and fiscal operations, space management, employee personnel and records, logistical services such as purchasing and printing, and public relations and development. Also includes information technology expenses related to institutional support activities. If an institution does not separately budget and expense information technology resources, the costs associated with student services and operation and maintenance of plant will also be applied to this function. FASB institutions include actual or allocated costs for operation and maintenance of plant, interest and depreciation. GASB institutions do not include operation and maintenance of plant or interest, but may, as an option, distribute depreciation expense.

The full-time-equivalent (FTE) enrollment used is the sum of the institutions' FTE undergraduate enrollment and FTE graduate enrollment (as calculated from or reported on the 12-month Enrollment component) plus the estimated FTE of first-professional students. Undergraduate and graduate FTE are estimated using 12-month instructional activity (credit and/or contact hours).

Appendix B (continued)

For more information see the variable description for 12-month full-time equivalent enrollment (info link) under frequently used\ 12-month enrollment.

Variable Sources

Derived

All other core expenses per FTE (GASB)

Variable Description

All other core expenses per FTE enrollment for public institutions using GASB 34/35 standards is derived as follows:

Other core expenses is equal to the sum of expenses for the following functions:

Operation maintenance of plant (F1C081)

Depreciation (F1C091)

Scholarships and fellowships expenses (F1C101)

Other expenses and deductions (F1C141)

Total nonoperating expenses and deductions (F1C181)

Other core expenses is then divided by 12-month FTE enrollment (FTE12MN)

The full-time-equivalent (FTE) enrollment used is the sum of the institutions' FTE undergraduate enrollment and FTE graduate enrollment (as calculated from or reported on the 12-month Enrollment component) plus the estimated FTE of first-professional students. Undergraduate and graduate FTE are estimated using 12-month instructional activity (credit and/or contact hours).

For more information see the variable description for 12-month full-time equivalent enrollment (info link) under frequently used\ 12-month enrollment.

For glossary definitions of the above finance terms see variables listed under the Finance survey.

Variable Sources

Derived

Average salary equated to 9-month contracts of full-time instructional staff - all ranks

Variable Description

Appendix B (continued)

Note: Perturbation procedures were applied to these data to protect against disclosure of individual information.

Average salary equated to 9-month contracts of full-time instructional faculty - all ranks were derived by summing the equated 9-month outlays for each rank and dividing by the total faculty on both 9/10 month and 11/12 month contracts.

For detail on derivation of salary outlays for equated 9-month see individual ranks

Variable Sources

Derived Data Feedback Report - IPEDS, Winter 2006-07, Human Resources component, Salaries section

Total price for in-state students living off campus (not with family) 2008-09

Variable Description

Cost of attendance for full-time, first-time degree/certificate seeking in-state undergraduate students living off campus (not with family) for academic year 2008-09. It includes in-state tuition and fees, books and supplies, off campus (not with family) room and board, and other off campus (not with family) expenses.
$$\text{cinsoff} = \text{chg2ay3} + \text{chg4ay3} + \text{chg7ay3} + \text{chg8ay3}$$

Variable Sources

Derived - IPEDS, Fall 2008, Institutional Characteristics component

Bachelor's degree

Variable Description

Bachelor's degree awarded between July 1, 2005 and June 30, 2006

This variable is derived directly from the completions survey Grand total (CRACE24) for first majors (MAJORNUM=1) and Bachelor's degree (AWLEVEL=5) and the sum of all 6-digit CIP programs (CIPCODE=99).

If institution submits data for more than one institution (parent/child) the total awards/degrees are allocated based on factors submitted by the institution.

For more information on allocation factors see

Parent/child allocation factor - Completions in the response status section.

Bachelor's degree - An award (baccalaureate or equivalent degree, as determined by the

Appendix B (continued)

Secretary, U.S. Department of Education) that normally requires at least 4 but not more than 5 years of full-time equivalent college-level work. This includes all bachelor's degrees conferred in a 5-year cooperative (work-study) program. A cooperative plan provides for alternate class attendance and employment in business, industry, or government; thus, it allows students to combine actual work experience with their college studies. Also includes bachelor's degrees in which the normal 4 years of work are completed in 3 years

Variable Sources

Derived Data Feedback report - IPEDS, Fall 2006, Completions component

Associate degree

Variable Description

Associate degree awarded between July 1, 2005 and June 30, 2006

This variable is derived directly from the completions survey Grand total (CRACE24) for first majors(MAJORNUM=1) and Associate degree (AWLEVEL=3) and the sum of all 6-digit CIP programs (CIPCODE=99).

If institution submits data for more than one institution (parent/child) the total awards/degrees are allocated based on factors submitted by the institution.

For more information on allocation factors see

Parent/child allocation factor - Completions in the response status section.

Associate degree - An award that normally requires at least 2 but less than 4 years of full-time equivalent college work.

Variable Sources

Derived Data Feedback report - IPEDS, Fall 2006, Completions component

Percent receiving federal, state, local or institutional grant aid

Variable Description

Note: Perturbation procedures were applied to these data to protect against disclosure of individual information.

Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received any grant aid (grants/educational assistance funds).

Appendix B (continued)

Any grant aid include Federal, State and local government grants and institutional grants.

Undergraduate - A student enrolled in a 4- or 5-year bachelor's degree program, an associate degree program, or a vocational or technical program below the baccalaureate

Full-time student (Undergraduate) — A student enrolled for 12 or more semester credits, or 12 or more quarter credits, or 24 or more contact hours a week each term.

First-time student (undergraduate) - A student attending any institution for the first time at the undergraduate level. Includes students enrolled in academic or occupational programs . Also includes students enrolled in the fall term who attended college for the first time in the prior summer term, and students who entered with advanced standing (college credits earned before graduation from high school).

Degree/certificate-seeking students - Students enrolled in courses for credit who are recognized by the institution as seeking a degree or other formal award. At the undergraduate level, this is intended to include students enrolled in vocational or occupational programs.

Variable Sources

IPEDS, Spring 2009, Student Financial Aid component

No Value sets are available for this variable

Percentage receiving Pell grants

Variable Description

Note: Perturbation procedures were applied to these data to protect against disclosure of individual information.

Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received Pell grants.

Pell Grant program (Higher Education Act of 1965, Title IV, Part A, Subpart I, as amended.) Provides grant assistance to eligible undergraduate postsecondary students with demonstrated financial need to help meet education expenses.

Undergraduate - A student enrolled in a 4- or 5-year bachelor's degree program, an associate degree program, or a vocational or technical program below the baccalaureate

Full-time student (Undergraduate) — A student enrolled for 12 or more semester credits, or 12 or more quarter credits, or 24 or more contact hours a week each term.

Appendix B (continued)

First-time student (undergraduate) - A student attending any institution for the first time at the undergraduate level. Includes students enrolled in academic or occupational programs . Also includes students enrolled in the fall term who attended college for the first time in the prior summer term, and students who entered with advanced standing (college credits earned before graduation from high school).

Degree/certificate-seeking students - Students enrolled in courses for credit who are recognized by the institution as seeking a degree or other formal award. At the undergraduate level, this is intended to include students enrolled in vocational or occupational programs.

Variable Sources

IPEDS, Spring 2009, Student Financial Aid component

Percentage receiving federal loan aid

Variable Description

Note: Perturbation procedures were applied to these data to protect against disclosure of individual information.

Percentage of full-time, first-time degree/certificate-seeking undergraduate students who received Federal loans.

Loans to students - Any monies that must be repaid to the lending institution for which the student is the designated borrower. Includes all Title IV subsidized and unsubsidized loans and all institutionally- and privately-sponsored loans. Does not include PLUS and other loans made directly to parents.

Undergraduate - A student enrolled in a 4- or 5-year bachelor's degree program, an associate degree program, or a vocational or technical program below the baccalaureate

Full-time student (Undergraduate) — A student enrolled for 12 or more semester credits, or 12 or more quarter credits, or 24 or more contact hours a week each term.

First-time student (undergraduate) - A student attending any institution for the first time at the undergraduate level. Includes students enrolled in academic or occupational programs . Also includes students enrolled in the fall term who attended college for the first time in the prior summer term, and students who entered with advanced standing (college credits earned before graduation from high school).

Appendix B (continued)

Degree/certificate-seeking students - Students enrolled in courses for credit who are recognized by the institution as seeking a degree or other formal award. At the undergraduate level, this is intended to include students enrolled in vocational or occupational programs.

Variable Sources

IPEDS, Spring 2009, Student Financial Aid component

Percent of total enrollment that are African American, non-Hispanic

Variable Description

Percent of student body that is African American non-Hispanic in the fall of the academic year. This variable is derived from the enrollment component that is collected in the winter and spring surveys.

African American non-Hispanic - A person having origins in any of the African American racial groups of Africa (except those of Hispanic origin).

This variable is derived by dividing total African American non-Hispanic enrollment (EFALEVEL=1,EFRACE18) by the grand total enrollment (EFALEVEL=1,EFRACE24) for men and women (EFRACE24). Ratios are converted to percentages by multiplying by 100 and then are rounded to whole numbers.

Variable Sources

Derived Data Feedback report - IPEDS, Winter 2006-07 and Spring 2007, Enrollment component

Percent of total enrollment that are Hispanic

Variable Description

Percent of student body that is Hispanic in the fall of the academic year. This variable is derived from enrollment component that is collected in the winter and spring surveys.

Hispanic - A person of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin, regardless of race.

This variable is derived by dividing total Hispanic enrollment (EFALEVEL=1,EFRACE21) by the grand total enrollment (EFALEVEL=1,EFRACE24) for men and women (EFRACE24).

Appendix B (continued)

Ratios are converted to percentages by multiplying by 100 and then are rounded to whole numbers.

Variable Sources

Derived Data Feedback report - IPEDS, Winter 2006-07 and Spring 2007, Enrollment component

Percent of total enrollment that are White, non-Hispanic

Variable Description

Percent of student body that is White non-Hispanic in the fall of the academic year. This variable is derived from the enrollment component that is collected in the winter and spring surveys.

White, non-Hispanic - A person having origins in any of the original peoples of Europe, North Africa, or the Middle East (except those of Hispanic origin).

This variable is derived by dividing total White non-Hispanic enrollment (EFALEVEL=1,EFRACE22) by the grand total enrollment (EFALEVEL=1,EFRACE24) for men and women (EFRACE24). Ratios are converted to percentages by multiplying by 100 and then are rounded to whole numbers.

Variable Sources

Derived Data Feedback report - IPEDS, Winter 2006-07 and Spring 2007, Enrollment component

Associate degree

Variable Description

What award levels are offered by your institution? (One academic year equals 30 semester credit hours or its equivalent, or 900 contact or clock hours.)

Associate degree

ASSOCIATE DEGREE - An award that normally requires at least 2 but less than 4 years of full-time equivalent college work.

Variable Sources

IPEDS, Fall 2006, Institutional Characteristics component

Bachelor's degree

Variable Description

What award levels are offered by your institution? (One academic year equals 30 semester credit hours or its equivalent, or 900 contact or clock hours.) [Check all that apply]

Bachelor's degree or equivalent

BACHELOR'S DEGREE - An award (baccalaureate or equivalent degree, as determined by the Secretary, U.S. Department of Education) that normally requires at least 4 but not more than 5 years of full-time equivalent college-level work. This includes all bachelor's degrees conferred in a 5-year cooperative (work-study plan) program. A cooperative plan provides for alternate class attendance and employment in business, industry, or government; thus, it allows students to combine actual work experience with their college studies. Also, includes bachelor's degrees in which the normal 4 years of work are completed in 3 years.

Variable Sources

IPEDS, Fall 2006, Institutional Characteristics component

APPENDIX C: APPLICATION FOR EXEMPTION FROM INSTITUTIONAL OVERSIGHT

Application for Exemption from Institutional Oversight

Unless qualified as meeting the specific criteria for exemption from Institutional Review Board (IRB) oversight, ALL LSU research/projects using living humans as subjects, or samples or data obtained from humans, directly or indirectly, with or without their consent, must be approved or exempted in advance by the LSU IRB. This Form helps the PI determine if a project may be exempted, and is used to request an exemption.



Institutional Review Board
Dr. Robert Mathews, Chair
203 B-1 David Boyd Hall
Baton Rouge, LA 70803
P: 225.578.8692
F: 225.578.6792
irb@lsu.edu | lsu.edu/irb

- Applicant, Please fill out the application in its entirety and include the completed application as well as parts A-E, listed below, when submitting to the IRB. Once the application is completed, please submit two copies of the completed application to the IRB Office or to a member of the Human Subjects Screening Committee. Members of this committee can be found at [http://appl003.lsu.edu/osp/osp.nsf/\\$Content/Humans+Subject+Committee?OpenDocument](http://appl003.lsu.edu/osp/osp.nsf/$Content/Humans+Subject+Committee?OpenDocument)
 - A Complete Application Includes All of the Following:
 - (A) Two copies of this completed form and two copies of parts B thru E.
 - (B) A brief project description (adequate to evaluate risks to subjects and to explain your responses to Parts 1 & 2)
 - (C) Copies of all instruments to be used.
 - If this proposal is part of a grant proposal, include a copy of the proposal and all recruitment material.
 - (D) The consent form that you will use in the study (see part 3 for more information.)
 - (E) Certificate of Completion of Human Subjects Protection Training for all personnel involved in the project, including students who are involved with testing or handling data, unless already on file with the IRB.
- Training link: (<http://cme.cancer.gov/clinicaltrials/learning/humanparticipant-protections.asp>.)

1) Principal Investigator: David Wesse Rank: Graduate Student Student?? Y/N ☒

Dept.: Human Resource Ed. Ph: 318-473-6409 E-mail: dwesse@lsu.edu

2) Co Investigator(s): please include department, rank and e-mail for each
If student, please identify and name supervising professor in this space

Supervising Professor: Dr. Satish Verma, College of Agriculture,
School of Human Resource Education and Workforce Development,
Professor, 225-578-5740, sverma@lsu.edu

3) Project Title: The Relationship of the Introduction of Bachelor Degree Programs to the Awarding of Associate Degrees at Public Community Colleges

4) LSU Proposal?(yes or no) ☒ No If Yes, LSU Proposal Number

Also, if YES, either ☐ This application completely matches the scope of work in the grant
OR
☐ More IRB Applications will be filed later

5) Subject pool (e.g. Psychology Students) Public Colleges in the United States

• Circle any "vulnerable populations" to be used: (children <18; the mentally impaired, pregnant women, the aged, other). Projects with incarcerated persons cannot be exempted.

6) PI Signature [Signature] ** Date 03-27-12 (per signatures)

**I certify my responses are accurate and complete. If the project scope or design is later changed I will resubmit for review. I will obtain written approval from the Authorized Representative of all non-LSU institutions in which the study is conducted. I also understand that it is my responsibility to maintain copies of all consent forms at LSU for three years after completion of the study. If I leave LSU before that time the consent forms should be preserved in the Departmental Office.

Effective August 1, 2007, all Exemptions will expire three years from date of approval, unless a continuation report, found on our website, is filed prior to expiration date

Screening Committee Action: Exempted <input checked="" type="checkbox"/> Not Exempted	Category/Paragraph <u>4</u>
Reviewer <u>Mathews</u>	Signature <u>[Signature]</u> Date <u>4/2/12</u>

Any Exempted By:
Dr. Robert C. Mathews, Chairman
Institutional Review Board
Louisiana State University
203 B-1 David Boyd Hall
225-578-8692 | www.lsu.edu/irb
Exemption Expires: 3/1/2015

IRB# 05944 LSU Proposal#
☒ Complete Application
☒ Human Subjects Training

VITA

David Wesse is the father of two grown children, Eric and Jason, and is the husband of Deborah (nee Smith). He is a native of Chicago, Illinois. He and his wife currently live in Alexandria, Louisiana.

Since 2003, he has served as the Vice-Chancellor for Finance & Administrative Services at Louisiana State University Alexandria. His first professional position after receiving his bachelor's degree was with the Rueben H. Donnelley Corporation as an administrative manager. He progressed through increasingly responsible administrative management positions at Loyola University of Chicago, the Joint Commission on Accreditation of Health Care Organizations, Northwestern University, KPMG Peat Marwick Higher Education Consulting, and the University of North Florida before joining Louisiana State University Alexandria as its Vice Chancellor for Finance and Administrative Services. As an administrator and as a consultant David Wesse has served more than a dozen higher education institutions.

On behalf of the Southern Association of Colleges and Schools Commission on Colleges (SACS COC) Wesse has served as a member of numerous on-site accreditation committees and off-site reaffirmation committees that evaluate institutions seeking reaffirmation of accreditation with the commission.

Higher Education units led by Wesse have won six national awards. The National Association of College and University Business Officers (NACUBO) presented each of these awards. He has actively participated in professional organizations, having held several positions of leadership with the Administrative Management Society, including president of the Chicago Chapter and member of the Certified Administrative Manager (C.A.M.) National Board of Regents. He also served, as a member of Central Association of College and University

Business Officers (CACUBO) committees, the National Association of College Auxiliary Services (NACAS) and the Association of College Administration Professionals (ACAP). He founded the Chicago Area Business and Support Service Administrators (CABSSA), the Big Ten Business and Support Service Administrators, and served on the board of the Better Business Bureau of Chicago and Northern Illinois (BBB), Kiwanis, the Association of College Administration Professionals and the Alexandria Metropolitan Foundation.

He received his Master's degree in Human Resource Management from Loyola University of Chicago, his Bachelor degree in Education from Illinois State University, and his Associate degree from South Suburban (formerly Thornton) College. He is a member of the Gamma Sigma Delta Honor Society, the Lambda Epsilon Honor Society, and the Phi Theta Kappa Honor Society. He has received his Certified Administrative Manager (C.A.M.) designation.

Wesse served as the elected President of the Riverdale (Illinois) Public Library District and served as President of the Riverdale Youth Commission. He was also president of the University of North Florida Administrative and Professional Association. He has given numerous higher education related presentations and seminars. He has written a number of articles related to higher education administrative management. In 1989, he won the Excellence in Journalism Award from the National Association of College Auxiliary Services, and he has received a service recognition award from the Riverdale Public Library District. His biographical data is in Who's Who in America.